

Submittal Number: **025**

Specifications Sections: 265100, 2.1 - 265100, 2.9 - -

Subcontractor: Electrical

Submittal Type: Product Data/Other - - -

Description: Light Fixtures, Exit Fixtures

☒ **1. Reviewed/No Exceptions Taken (UON)**

Type F6, Type E1

☒ **2. Make Corrections Noted (Resubmittal Not Required)**

Type F1, F1A, F2, F5, F7

☐ **3. Revise as Noted and Resubmit**

☒ **4. Incomplete Submittal, Submit Missing Information**

Type F6, Type E1

☒ **5. Rejected, Resubmit as Specified**

Type F3, Type F4

☐ **6. Retained for A/E/Owner Record Only, without A/E Review**

Other Comments

For specific comments related to the Electrical Engineer's review of this submittal, see attached.

Reference and Description

Review Comments

Section 16510 – lighting Fixtures, Lamps and Ballasts (Interior)

1.	Type F1	MCN	1. Verify ceiling type in field.
2.	Type F1A	MCN	1. This is 6' length fixture. Provide with 4-39WT5HO lamps and electronic dimming ballast. 2. Verify ceiling type in field.
3.	Type F2	MCN	1. LED shall be 3600 lumens and 36W, not 2400 lumens and 24W as submitted.
4.	Type F3	REJ	1. Provide the Slot 4T series with asymmetric distribution.
5.	Type F4	REJ	1. Provide LED downlight with 4" aperture, not 6" aperture as submitted.
6.	Type F5	MCN	1. Provide LED with 3500K color temperature and 80 degree reflector, not 3000K and 50 degree reflector as submitted.
7.	Type F6	NET	
8.	Type F7	MCN	1. Provide with programmed rapid start ballast, not instant start ballast as submitted.
9.	Type E1	NET	

Reference and Description

Review Comments

10 Type E1

NS

1. Submit specified exit sign with double face and arrows as indicated on drawing.

END OF REVIEW COMMENTS

FEATURES & SPECIFICATIONS

INTENDED USE — The VT Volumetric Troffer combines the aesthetics and high performance with intelligent LED engines for applications - offices, schools, retail locations and hospitals. High-efficacy light engine delivers long life and excellent color, ensuring a superior quality lighting installation that is highly efficient and sustainable. Featured nLight controls system provides design flexibility and ease of installation and optimum energy savings.

CONSTRUCTION — Rugged, one-piece cold-rolled steel coated polyester, painted after fabrication with embossed facets. Impact-modified, single clear acrylic diffuser provides excellent shielding and wide distribution. End plates include integral T-bar clips. Fixture may be mounted and wired in continuous rows. Total fixture height is only 4-3/8".

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions, vertical and horizontal work surfaces — rendering the interior space, objects and occupants in a more balanced, complementary luminous environment. Linear faceted reflector cavity softens and distributes light into the space while minimizing luminous contrast between the fixture and ceiling. Sloped end plates provide a smooth, luminous transition between fixture and ceiling while enhancing the perception of fixture depth. Advanced optical film provides superior LED concealment and even illumination across the diffuser.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. VTLED is rated to deliver L80 performance for 50,000 hours.

Standard nLight™ embedded controls make each luminaire addressable - allowing it to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Simply connect all the nLight enabled control devices and the VTLED luminaires using standard Cat-5 cabling. Unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission. Lumen Management: Unique lumen management system (option N80) provides onboard intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting.

Bi-level dimming option allows system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

LED Acudrive™ driver delivers full-range dimming from 0-10V control signal.

Driver disconnect provided where required to comply with US and Canadian codes.

INSTALLATION — Unique grid interfacing arrangement provides mounting into standard 1" and 9/16" tee bar or screw slot grids. 9/16" allows fixture trim to hang level with architectural ceiling tiles. Drywall ceiling adaptors available. Suitable for damp location.

LISTINGS — CSA Certified to meet U.S. and Canadian standards.

Patents pending.

DLC certified test to LM80 standards.

Catalog Number	2VTL2 24L ADP 277 D24 LP835 NX
Notes	
Type	F2



2VTLED

2' x 2'
LED

VT LED
Volumetric Troffer

DESIGNLIGHTS
CONSORTIUM

HEIGHT

INDUSTRY RECOGNITION/AWARDS



2012 RECOGNIZED
PRODUCT

2011 ARCHITECTURAL SSL PRODUCT
INNOVATION AWARD

WARRANTY — 5-year limited warranty. Complete warranty terms located at www.aculitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Specifications subject to change without notice.

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: 2VTL2 36L ADP D36 LP835 N100

Series	Air Function	Lumens	Diffuser	Voltage	Wattage	Color temperature	Controls	Options
2VTL2		24L	ADP	277	D24	LP835	NX	
2VTL2 Volumetric troffer 2X2 LED	(blank) Static H Heat removal	24L 2400 lumens ¹ 36L 3600 lumens ¹	ADP Acrylic linear prismatic	(blank) MVOLT 347 347 ²	D24 24W ³ D36 36W ⁴	LP835 82 CRI, 3500K LP840 82 CRI, 4000K LP850 82 CRI, 5000K	NX Dimming, no nLight BLD Bi-level dimming N80 nLight with 80% lumen management. N80EMG nLight with 80% lumen management. For use with generator supply EM power. N100 nLight without lumen management. N100EMG nLight without lumen management. For use with generator supply EM power.	EL14L 1400 lumen battery pack

nLight™ Control Accessories:
Order as separate catalog number. Visit www.sensorswitch.com/nlight for complete listing of nLight controls.

Wall/Pod stations	Model number	Occupancy sensors	Model number
On/Off	nPDDM [color]	Standard range 360°, ceiling (PIR / dual tech)	nCM 9 / nCM PDT 9
On/Off & Raise/Lower	nPDDM DX [color]	Extended range 360°, ceiling (PIR / dual tech)	nCM 10 / nCM PDT 10
Graphic Touchscreen	nPDD GFX	Wide view (PIR / dual tech)	nWV 16 / nWV PDT 16
PhotoCell controls	Model number	Cat-5 cable bundles (plenum rated)	Model number
Continuous dimming	nCM ADC	10', CAT5 10FT	CAT5 10FT J1
On/Off & Dimming	nCM PC ADC	15', CAT5 15FT	CAT5 15FT J1

Accessories: Order as separate catalog number.

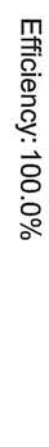
2VTL2 F916	Trim to adjust fixture mounting flush with 9/16" T-bar, for 2X2 fixture
DGA22	Drywall ceiling adaptor, unit installation

Notes

1. Approximate lumen output.
2. Consult factory for availability. Not available with EL14 battery pack or BLD controls.
3. For use with 2400 lumen system. Approximate input power (watts) +/-5%.
4. For use with 3600 lumen system. Approximate input power (watts) +/-5%.



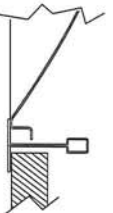
1



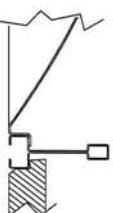
Dimensions

15/16

All dimensions are inches (centimeters) unless otherwise specified.



55

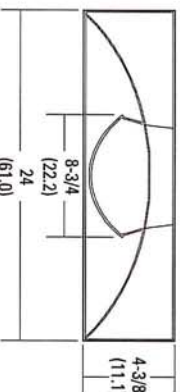


Specifications

Length: 24 (61.0)

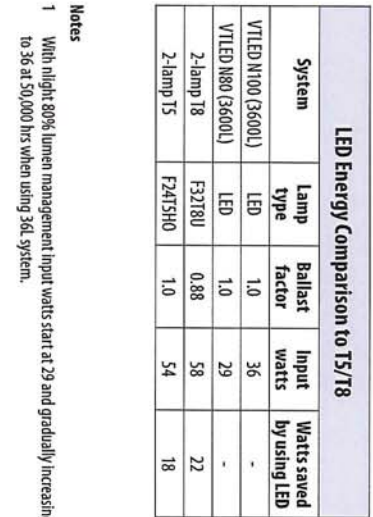
Width: 24 (61.0)

Depth: 4-3/8 (11.1)



LED ENKAVU/Carminaricon 40 TC/T8

Item	Lamp type	Ballast factor	Input watts	Watts saved by using LED
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1 With nilight 80% lumen management input watts start at 29 and gradually increasing to 36 at 50,000 hrs when using 36L system.



MARK[®]

ARCHITECTURAL LIGHTING



The Slot 4 Series

Utilizing the linear design of the Slot family, Slot 4 takes both form and function a step further. Through an optional halogen or metal halide MR16 downlight component, Slot 4 integrates point-source lighting with general illumination, and a regressed lens option provides added dimension to the sleek, slender design.

Available with a frosted clear acrylic lens or parabolic baffle, Slot 4 is a natural choice for spaces that emphasize a clean style and basic lines.

Type:
F3

Project:
VA PALO ALTO

Catalog Number:

DO NOT TYPE HERE. Autopopulated field.

SL4R	16	1TSHO
EBPR	277	FA

Specification Features

Housing

Nominal 4" x 2", 3", 4", 5", 6" or 8" units fabricated from 20-gauge, cold-rolled steel. Ceiling trim is extruded aluminum. Downlight component (where applicable) is die-cast aluminum.

Finish

Matte white. MR16 trim is matte black (standard) or white.

Reflector

Precision-formed steel; white.

Shielding

Nominal 1/4"-thick frosted clear acrylic with rabbeted ends to prevent light leaks against downlight components. Optional semi-diffuse parabolic baffle, 3/4" high x 2" on center.

Lamps

(1) or (2) T5, TSHO or T8 lamps. (2) MR16 (max. 50W) or MH MR16 (max.

39W) lamps for optional downlight component. All lamps provided by others.

Ballast

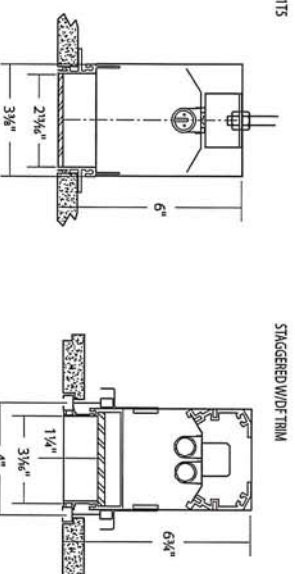
Fluorescent and metal halide: Thermally protected Class P energy-saving electronic ballast. MR16: Electronic 12-volt, 120 or 277 as specified.

Mounting

Recessed. Available for sheetrock, 9/16" slot grid or 15/16" inverted tee ceilings, or 9/16" inverted tee. For Hunter Douglas Techstyle® or other ceiling types, consult factory.

Certification

cULus Listed, IBEW (Local 3) Union-made in the USA.



Ordering

Example: SL4F 4 DF 2T5 EBI5 120 FA

SL4R	16		1TSHO		EBPR	277	FA	
Series	Length	Downlights ¹	Ceiling type	No. of lamps/Lamp type	Ballast	Voltage	Shielding	Options
SL4R Slot 4 Regressed	2 2'	M 50W MR16	DF 9/16" slot grid or 15/16" inverted	Number of lamps 1	EBPR Program rapid start (standard)	120	FA 1/4" thick clear	EMPK Emergency battery pack
SL4F Slot 4 Flush	3 3'	MH20 ² 20W/MH MR16	tee	T5	EBI5 Instant start	277	frosted acrylic	WHD White MR16 trim
	4 4'	MH39 ³ 39W/MH MR 16	9/16" inverted tee grid with teardrop files	2	ED8 Dimming (specify)	347 ⁴	Semi-diffuse parabolic baffle	CP Chicago plenum
	5 5'			T8	EDHL Lutron Hi-Lume® dimming			MLV ⁵ Magnetic transformer
	6 6'			T5S ^{1,14}				
	8 8'	Fluorescent only	GB Trimless (sheetrock)	TSHOS ^{1,14}	EDE10 Lutron Eco-10® dimming			
	—ft.	Specify continuous run length (in whole feet)	FL 5/8" flange (sheetrock)		EDES Lutron Eco System®			

Notes

- 1 MR16 modules are supplied at each end of individual unit.
- 2 Fixture depth increases to 6 3/4" for these options.
- 3 S = Staggered lampping.
- 4 Fluorescent only. Consult factory for lamp and ballast compatibility.

FEATURES

OPTICAL SYSTEM

- Self-flanged, semi-specular, matte-diffuse or specular lower reflector utilized in combination with a highly transmissive lens. LEDs are completely concealed providing superior aesthetic appeal.

- LEDs in a proprietary mixing chamber provide consistent performance balancing glare, uniformity and efficiency. Patented Bounding Ray™ Optical Principle design (U.S. Patent No. 5,800,050) provides 45° cut-off to source and source image for a smooth transition from top of the reflector to bottom.

MECHANICAL SYSTEM

- Housing accommodates a maximum 7/8" ceiling thickness. See CTA Accessory note below.
 - Light engine and driver are accessible from above or below ceiling.
 - 16-gauge galvanized steel mounting bars with continuous 4" vertical adjustment are shipped pre-installed. Post installation adjustment possible without the use of tools from above or below ceiling.
 - Galvanized steel junction box with hinged access covers and spring latch. Three combination 1/2"-3/4" and one 1/2" knockout for straight-through conduit runs. Capacity: 8 (4in, 4out) No. 12 AWG conductors rated for 90°C.
- ### ELECTRICAL SYSTEM
- Solid state LED light engine available in 3000 K, 3500 K or 4100 K color temperatures.
 - Class P, thermally protected solid-state 0-10V dimming driver.
 - Rated system life of 50,000 hours at 70% output.
 - Emergency battery pack with remote test switch available.
- ### LISTING
- Fixtures are CSA certified and are listed and labeled to comply with US and Canadian standards. Wet location listed.
- ### WARRANTY
- 5-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx.



6" ALED Open Reflector

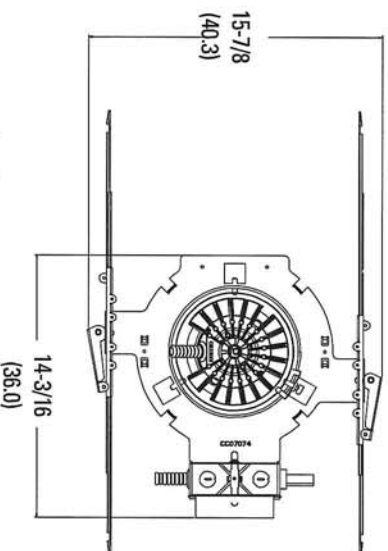
LED Downlights

Type

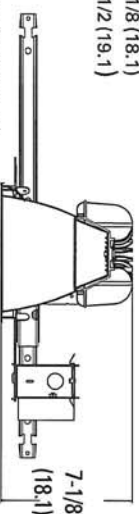
F4

Catalog number

ALED 35/18 6AR 277



Aperture: 6-1/4 (15.9)
Ceiling Opening: 7-1/8 (18.1)
Overlap Trim: 7-1/2 (19.1)



All dimensions are inches (centimeters).

ORDERING INFORMATION

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line. Order accessories as separate catalog numbers (shipped separately).

ALED		35/18		6AR		277			
Series	Color temperature	Nominal lumen values	Aperture	Trim color	Finish	Voltage	Driver	Options	
ALED	30/ 3000 K	10 1000 lumens	6	AR Clear	(blank) Semi-specular	120	(blank) 0-10V dimming driver	SF Single fuse	
	35/ 3500 K	14 1400 lumens		PR Pewter	LD Matte-diffuse	277		LRC Lithonia Reloc system	
	41/ 4100 K	18 1800 lumens		WTR Wheat	LS Specular	347		NSD ² Sensorswitch night™ dimming relay	
				GR Gold				TRW ² White painted flange	
				WR ¹ White				TRBL Black painted flange	
								ELR Emergency battery pack with remote test switch	
								CP Chicago plenum	

Accessories

Order as separate catalog number.

NOTES

- 1 Not available with finishes.
- 2 The 5A relay with one 0-10 VDC dimming output, shipped installed, requires additional in-light bus power supply.
- 3 Not available with white reflector.

SCA6 Sloped ceiling adapter. Degree of slope must be specified (10D, 15D, 20D, 25D, 30D). Ex: SCA6 10D

CTA6 VKLED Ceiling thickness adapter (extends mounting frame to accommodate ceiling thickness up to 2".

GVRT Vandal-resistant trim accessory. Refer to [TECH-200](#).
ISD BC 0-10V wallbox dimmer. Refer to [ISD-BC](#).



GOTHAM ARCHITECTURAL DOWNLIGHTING
1400 Lester Road Conyers Georgia 30012
P 800 315 4982 F 770 860 3129
www.gothamlighting.com

ALED 6

DLED-510

BeveLED^{2.0}



DOWNLIGHT 3110



1" REGRESS ALZAK

1" REGRESS

2-1/4" REGRESS ALZAK



BeveLED 2.0 Recessed Downlight - It's a Downlight, Adjustable and Wall Wash - all in one housing - interchangeable anytime. Delivering up to 2000 lumens at 33W (60LPW), 1500 lumens at 24W (61LPW) and 1000 lumens at 16W (72LPW) the BeveLED 2.0 provides maximum delivered lumens and optical performance through the optimization of thermal, optical and LED science in the smallest possible aperture.

PROJECT INFORMATION

PROJECT _____ **TYPE** _____

DATE _____ **F5**

NOTES _____

DELIVERED PERFORMANCE

BeveLED 2.0 DOWNLIGHT	12 Watts		16 Watts		24 Watts		33 Watts	
	90+ CRI	HIGH CRI	90+ CRI	HIGH CRI	90+ CRI	HIGH CRI	90+ CRI	HIGH CRI
Lumens per Watt	74	61	72	64	69	57	63	52
Source Lumens	1012	837	1425	1165	1725	1410	2400	1960
Delivered Lumens	900	750	1265	1075	1675	1365	2100	1720

Performance based on T⁺ square regress trim with soffit lens. Consult factory for 2-1/2" regress trim

HOW TO SPECIFY

Trim	Bevel Style	- Optional - Trim Lens	- Flange Finish - Trim Lens	Wattage	Color Temperature	- Reflector - Type	Housing Type	Voltage-	Options
3110	B1		10	1STD4	30KS	50	NC	27V	
3110	1" REGRESS								
Downlight	B1 - Die Cast Bevel	F - Frosted	10 - White	1STD4-9012-C2 (12W LED)	STANDARD CRI 80+ 27KS - 2700K	30 - 30° 50 - 50° 80 - 80°	NC - New Construction	120V 277V	CB27 - 27" C-Channel Bars CB52 - 52" C-Channel Bars
3110W	AB1 - Black Alzak Bevel w/ painted flange	Note: Soffit is standard	13 - Statuary Bronze	1STD4-9016-C2 (16W LED)	30KS - 3000K		SP - New Construction		DIML2 - 0-10V Low Voltage, 100%-15% Dimming Driver
Wet Location	AC1 - Clear Matte Alzak Bevel		21 - Black	1STD4-9024-C2 (24W LED)	35KS - 3500K		Shallow Plenum		DIML3 - Lutron Hi-Lume A-Series 2 wire Forward Phase (with neutral) 100%-1% Dimming Driver, 120V Only
3110TZ	2-1/2" REGRESS		28 - Metalized Grey	1STD4-9033-C2 (33W LED)	40KS - 4000K		NC - New Construction		DIML4 - Lutron Hi-Lume A-Series 3 Wire or ECO System 100%-1% Dimming Driver
Tech Zone	AB2 - Black Alzak Bevel w/ painted flange		RAL - Special Color		High CRI 90+ 27KH - 2700K 30KH - 3000K		NC - New Construction		DIML5 - ELV 2 wire control, Reverse phase 100%-15% Dimming Driver. Not available for NCSCM and SP housings 120V Only.
Compatible Trim for use with NCSCM Housing	AC2 - Clear Matte Alzak Bevel w/ painted flange						CP - Chicago Plenum IC - Insulated / Airtight		DIML6A - e-dLED SOLIDdrive 561/S 0-10V control 100%-0% dimming driver For Lutron Controls. Not for 33W. See dimming compatibility guide.
3110EML	Wet location Use with EMLW Emergency on 1" regress only								DIML6B - e-dLED SOLIDdrive 561/S 0-10V control 100%-0% dimming driver For Non-Lutron Controls. Not for 33W. See dimming compatibility guide.
3110EMLW	Wet location Use with EMLW Emergency on 1" regress only								DIML7 - e-dLED SOLIDdrive 560/S DALI control 100%-0% dimming driver. Not for 33W.
Not required for NCSCM housing with EML Option									DIML8 - e-dLED POWERdrive 562/S DMX/RDM control 100%-0% dimming driver. Not available for NCSCM housings Not for 33W.

Options (continued)

EML - Emergency lighting battery pack w/ Integral test switch. (Serviceable through aperture). Not for use with wet listed. Bodine BSL26C Emergency driver with max. output of 200mA for 90 minutes delivering approx 275-300 lumens. *Note: NCSCM utilizes remote test switch & requires above ceiling access for service.

Not for use with IC or SP housings.

EMLW - Wet location emergency lighting battery pack w/ remote test switch. (Serviceable through aperture). Bodine BSL26C Emergency driver with max. output of 200mA for 90 minutes delivering approx 275-300 lumens. *Note: NCSCM housing utilizes remote test switch & requires above ceiling access for service.

Not for use with IC or SP housings.

TZ - TechZone ceiling compatible (NCSCM only).

USA[®]

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Revised 11/21/2013

LIGHT ENGINE

Proprietary blend of high power white LEDs tightly binned for fixture-to-fixture color consistency $\pm 50K$ within a 2-Step MacAdam Ellipse. Field replaceable through the aperture.

MATERIALS:

Trim: Die cast aluminum retained by two mounting clips.

Housing: All-Ways Square[®] housing allows alignment of square aperture (up to 20° rotation) after housing installation and prior to finish ceiling installation. All-Ways Square[®] covered by US Pat No: US 7,832,889. Fabricated of 20 ga. galvanized steel with thru wire J-box, 4 in 4 out at min. 90°C, #12 AWG thru branch circuit wiring. Housing and trim supplied as one complete unit.

Trim Lens: Solite. Frosted is optionally available.

Reflector: Interchangeable precision injection molded specular polycarbonate reflector maximized for 30°, 50° or 80° beam distribution.

CRI OPTIONS: Standard: 80+ CRI. High: 90+ CRI.

TRIM INFORMATION

1" Regress w/ EM	1" Regress	1" Regress - TechZone Compatible	2-1/2" Regress
3 1/2" x 3 1/2"	3 1/2" x 3 1/2"	3 1/2" x 3 1/2"	2 1/2" x 2 1/2"
4 1/2" x 4 1/2"	4 1/2" x 4 1/2"	4 1/2" x 4 1/2"	4 1/2" x 4 1/2"
Outer Trim 5 1/2" x 5 1/2"	Outer Trim 5 1/2" x 5 1/2"	Outer Trim 5 1/2" x 5 1/2"	Outer Trim 5 1/2" x 5 1/2"
Hole in lens for EM indicator light			

HOUSING INFORMATION

New Construction
Universal Style Housing - NC

New Construction
Shallow Plenum - SP
For Downlight Only

Chicago Plenum (12W, 16W & 24W) - CP
IC / Airtight (16W & 24W) - IC

Chicago Plenum (33W) - CP
IC / Airtight (33W) - IC

7"	7"	7"	7"
6 1/8"	5"	6 7/8"	8 1/2"
1 1/4"	1 1/4"	1 1/4"	1 1/4"
13"	13"	13"	13"
18 3/8" (Plan View)	18 5/8" (Plan View)	18 5/8" (Plan View)	18 3/8" (Plan View)
22 1/8" (Plan View)	22 1/8" (Plan View)	22 1/8" (Plan View)	22 1/8" (Plan View)

New Construction - MCSM For Downlight Only

4 3/4"	4 3/4"
1 - 2 3/16"	1 - 2 3/16"
8 3/8"	8 3/8"
19" (Plan View)	19" (Plan View)
22 (Plan View)	22 (Plan View)

RATED LIFE: Based on IESNA LM80-2008 50,000 hours at 70% lumen maintenance (L70).
HEATSINK: Proprietary high performance aluminum die cast heatsink for maximum LED life.

DRIVER: Field Replaceable

Solid state electronic. Constant current. High power factor. Specify 120V or 277V. Driver complies with IEEE C62.41 surge protection.

DIMMING: (optional)

Multiple dimming drivers available. See compatibility chart attached. **Warm Glow Dimming** option available. See 3113 spec sheet.

MOUNTING:

Butterfly brackets and adjustable nailer bars with integral nails provided. Nailer bars are extendible from 14" to 24" centers.

CEILING CUT OUT: 5 1/16" x 5 1/16"

LISTINGS:

Dry/Damp/Wet. *(Wet available for die cast trims only). IBEW union made.



NOTES:

- Housing included with trim.
- Maximum ceiling thickness: NC/SP/IC/CP: 1 inch. MCSM: 2-3/16"
- Consult factory for other ceiling conditions.
- Fixture should be installed in applications where ambient temperatures do not exceed 40°C during normal operation.
- Not for use in corrosive environment.
- Use of pressure washer voids warranty.
- 5 year warranty

PHOTOMETRICS:

Consult factory or website for IES files. Tested in accordance with IESNA LM79-2008.

BeveLED^{2.0}

DIMMING DRIVER WIRING SCHEMES:

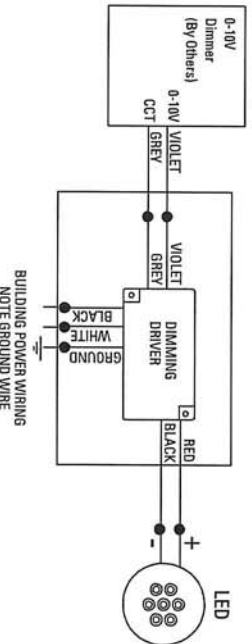
DIML2 LED: 0-10V FL Dimming Driver Wiring (Dims down to 15%)

NOTE: Consult dimmer manufacturer for detailed installation information.

For use with 0-10V fluorescent type controls.

Use only with approved vendor models:

Lutron: DIVA DVTV-XX XX=Color



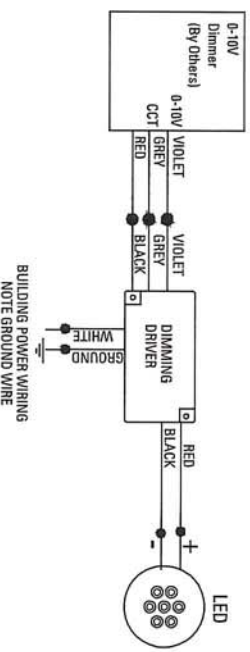
DIMMING DRIVER COMPATIBILITY SELECTION GUIDE

DIML2 & DIML3

Leviton and Lightolier Driver Wiring

Leviton: IP710-DLX

Lightolier: V2000FAMU



Compatible Crestron Dimming System: NOTE:

Consult dimmer manufacturer for detailed installation information.

Model	Compatible	Min # of Fixtures Required (1)	Min-Max % Limits (2)	Measured Light Output (3)
CLS-EXP-DIMFLV	Y	1	0-100%	15-100%
DIN-4DIMFLV4	Y	1	0-100%	15-100%
DIN-A08	Y	1	0-100%	15-100%
GLX-DIMFLV8	Y	1	0-100%	15-100%
GLXP-DIMFLV8	Y	1	0-100%	15-100%

- (1) Operating dimmers with less than minimum required fixtures may cause flicker. The Max number of fixtures is limited by dimmer rating unless otherwise noted.
- (2) % Level refers to the Crestron Control System Intensity. Operating the dimmer below the Min % level may cause flicker.
- (3) % Level of light output from fixture when connected directly to power source
- (4) Dimmer requires a direct connection to neutral unless otherwise noted.

DIML3 LED: Lutron Hi-Lume A-Series 2 Wire Fwd Phase (with neutral) / LED Dimming Driver Wiring (Dims down to 1%) 120V only.

Compatible Lutron Dimmers / Test Results

NOTE: Consult dimmer manufacturer for detailed installation information.

Product	Part Number	Fixtures Per Dimmer 120V Only*	Measured Light Output Range
NovaT	NTLV-600-CPND199	1-8	100% - 1%
Maestro Wireless	MWRPZ-6ND-120	1-8	100% - 1%
RadioRA 2 1000W	RRD-10ND	1-13	100% - 1%
RadioRA 2 Adaptive dimmer	RRD-6NA	1-8	100% - 1%
RadioRA 600W	RA-6ND	1-8	100% - 1%
RadioRA 1000W	RA-10ND	1-13	100% - 1%
HomeWorks OS 600W	HOHD-6ND	1-8	100% - 1%
HomeWorks OS 1000W	HOHD-10ND	1-13	100% - 1%
HomeWorks OS Adaptive dimmer	HOHD-6NA	1-8	100% - 1%
HomeWorks OS WPM	HOHL-WPM-6D-120	1-11	(per output) 100% - 1%
HomeWorks 600W dimmer	HRD-6ND	1-8	100% - 1%
HomeWorks 1000W dimmer	HWD-10ND, HRD-10ND	1-8	100% - 1%
HomeWorks WPM	HWI-WPM-6D-120	1-10	100% - 1%
GRAFIK Eye OS	QSGR-, QSGRJ-	1-10	(per output) 100% - 1%
GRAFIK Eye 3000	GRX-3100, GRX-3500	1-10	(per output) 100% - 1%
RPM-4U Module (LCP, HomeWorks, GRAFIK Systems, Quantum)	HW-RPM-4U-120, LP-RPM-4U-120	1-26	(per output) 100% - 1%
RPM-4A Module (LCP, HomeWorks, GRAFIK Systems, Quantum)	HW-RPM-4A-120, LP-RPM-4A-120	1-8	(per output) 100% - 1%
GP Panels (LCP, HomeWorks, GRAFIK Systems, Quantum)	Various	1-27	100% - 1%
Stanza	SZ-6ND	1-8	100% - 1%

* Fixtures per Dimmer value assumes a 40W fixture. Number of fixtures may be higher if wattage is less than 40W.

NOTE: Contact Lutron tech support for deganging rules when using wallbox controls on the

Hi-Lume A-Series LED Driver.

Compatible ETC Dimming Cabinets / Test Results

Approved for use with:

ETC Sensor + Cabinet with D20 dimming module

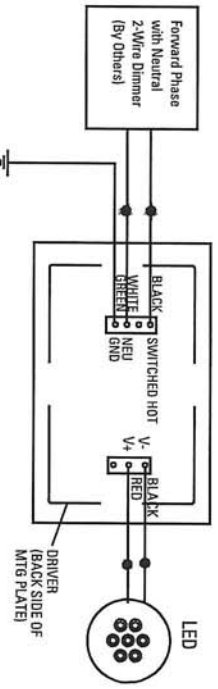
Measured light output 100% - 1%

ETC Unison DRd Cabinet with D20 dimming module

NOTE: Additional dim configuration required for optimum performance.

Measured light output 100% - 1%

Wire Diagram for 2-Wire Control



BeveLED^{2.0}

DIMMING DRIVER WIRING SCHEMES:

DIMMING DRIVER COMPATIBILITY SELECTION GUIDE

DIML4, DIML5, DIML6A & DIML6B

DIML4 LED: Lutron Hi-Lume A-Series LED Driver with Eco System Control / LED Dimming Driver Wiring (Dims down to 1%)

Compatible Lutron Dimmers / Test Results

NOTE: Consult dimmer manufacturer for detailed installation information.

Product	Part Number	Fixtures		Measured Light Output Range
		Per Dimmer	120V Only	
NovaT	NTE-10	1-59	-	100% - 1%
NovaT	NTE-103P, NTE-10-277	1-29	1-61	100% - 1%
NovaT	NTE-103P-277	-	1-46	100% - 1%
Nova	NF-10	1-59	-	100% - 1%
Nova	NF-103P, NF-10-277	1-29	1-61	100% - 1%
Nova	NF-103P-277	-	1-46	100% - 1%
Vareo	VF-10	1-29	-	100% - 1%
SkyJark	SF-10P, SF-103P	1-29	-	100% - 1%
SkyJark	SF-12P-277, SF-12P-277-3	-	1-46	100% - 1%
Diva	DVF-103, DVSCE-103P	1-29	-	100% - 1%
Diva	DVF-103P-277, DVSCE-103P-277	-	1-46	100% - 1%
Atiadini	AYE-103P	1-29	-	100% - 1%
Atiadini	AYE-103P-277	-	1-46	100% - 1%
Vleri	VTE-6AM	1-22	-	100% - 1%
Maestro	MAF-6AM, MAF-6AM-277, MSCF-6AM, MCSF-6AM-277	1-22	1-46	100% - 1%
Maestro Wireless	MRF2-F6AN-DV	1-22	1-46	100% - 1%
Sacer System	SPSF-6A, SPSF-6A-277, SPSF-6AM, SPSF-6AM-277	1-22	1-46	100% - 1%
Lynco LX	LXF-103PL	1-22	1-46	100% - 1%
Lynco LX	LXF-103PL-277	1-29	-	100% - 1%
Radio RA 2	RRD-F6AN-DV	1-22	1-46	100% - 1%
HomeWorks OS	HORD-F6AN-DV	1-22	1-46	100% - 1%
Interfaces (1)	PHPM-3F-120, PHPM-3F-DV	1-59	1-123	100% - 1%
	NGRX-FDB1-16A	1-59	-	100% - 1%
Energi Savr Node with EcoSystem	CS-1L-WM, CS-2L-WM, CS-1LCM, CS-2L-CM	64 per EcoSystem	100% - 1%	100% - 1%
Gratik Eye OS with ECO System	OS with EcoSystem	100% - 1%	100% - 1%	100% - 1%
Quantum	Quantum	32 per module	100% - 1%	100% - 1%
PowerPak dim module ECOSystem	RMJ-EC032-DV-B	32 per module	100% - 1%	100% - 1%

(1) For use with 3 Wire controls or Commercial Systems, RA Systems or Home Systems applications.
*Contact Lutron tech support for deganging rules when using wallbox controls on the Hi-Lume A-Series LED Driver.

**Fixtures per Dimmer value assumes a 40W fixture. Number of fixtures may be higher if wattage is less than 40W.

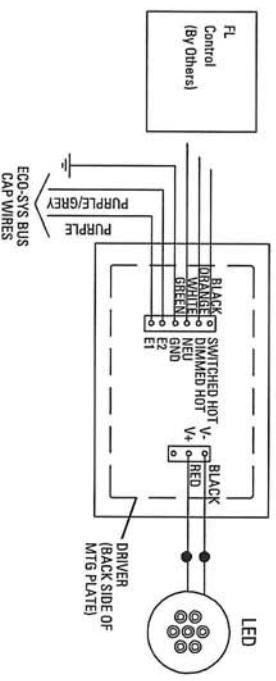
DIML5 LED: ELV Reverser Phase 2 wire 100%-15% Dimming Driver (16W only)

Product	Part Number	Fixtures		Measured Light Output Range
		Per Dimmer	120V Only	
Diva	DVELV-300P	1-8	-	10% - 100%
Maestro	MAEVL-600	1-8	-	10% - 100%
NovaT	NTELV	1-8	-	10% - 100%
Sunrise Preset	ZP2600E	1-8	-	10% - 100%

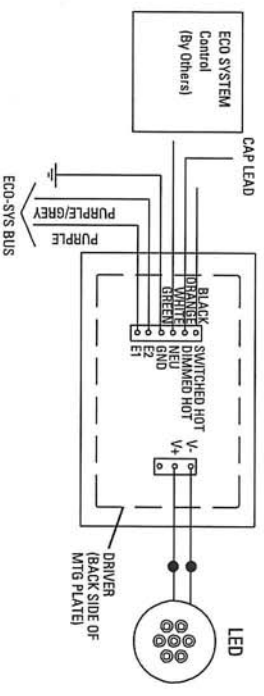
DIML6A LED: eldoLED SOLOdrive 561/S 0-10V control 100%-0% dimming driver For Lutron Controls.

Product	Part Number	Fixtures		Measured Dimming Range
		Per Dimmer	120V Only	
Diva	DVT/NET/V/N TFTV with PP-20	1-4	-	1% - 99%
Energi Savr Node	QSN-4T16-S	1-5	-	1% - 100%
Panelis	TVM2 Module	1	-	1% - 99%
Interfaces	GRX-TVI w/ GRX3503	1-4	-	1% - 100%
Lutron Electronics	GraphicEye-GRX-TVI w/ GRX3503 Energy Node-QSN-4T16-S	-	-	-

Wire Diagram for 3-Wire FL Control (no Eco System Control)



Wire Diagram for ECO System Digital Control



Compatible ETC Dimming Cabinets / Test Results

Approved for use with:

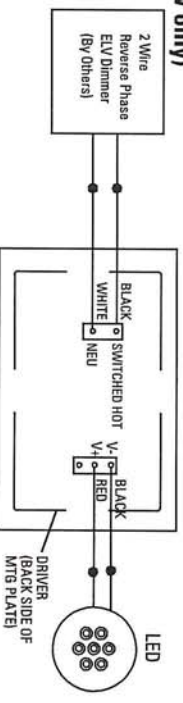
ETC Sensor+ Cabinet with D20F dimming module

Measured light output 100% - 1%

ETC Unison DRd Cabinet with D20F dimming module

NOTE: Additional dim configuration required for optimum performance.

Measured light output 100% - 1%



DIML6B LED: eldoLED SOLOdrive 561/S 0-10V control 100%-0% dimming driver For Non-Lutron Controls.

Product	Part Number	Part Number
Bush-Jaeager	2112U-101	
Jung	240-10	
Leviton Lighting Controls	IllumaTech-IP710-DLX	
Lightroller Controls	ZP600FAM120	
Merten	5729	
Pass & Seymour	CD4FB-W	
The Wall Stopper	DC1V1	

CORONA Z Series

CORONA Lightstrip Features

- Flexible cable allows lightstrip to bend in all directions, ideal for curvilinear architectural spaces
- Low profile provides discreet light source for smaller applications
- Available in Ivory or black
- Available in 2.4" or 3.0" lamp spacing
- Polycarbonate lampholders are rated for 450°F (232°C) with UL 94-V2 flammability rating
- Lampholders include mounting holes for standard #4 screws
- 10-gauge stranded copper conductor has PVC insulation rated for 105°C
- Lightstrip can be cut to length in field, for ease of ordering and installation
- ETL Listed for Dry and Damp Location

ZETA Lamp Features

Optical Characteristics

- Provides 35 lumens per lamp, comparable to standard 24V 5W Xenon festoon lamp
- LEDs contain Cree chips
- 120° wide beam angle minimizes hot spots and socket shadows, creating even illumination
- Tight color-binning of LEDs ensures uniformity of color
- 2400K warm white emulates incandescent light
- 2900K warm white emulates halogen light
- Emits no UV and no IR

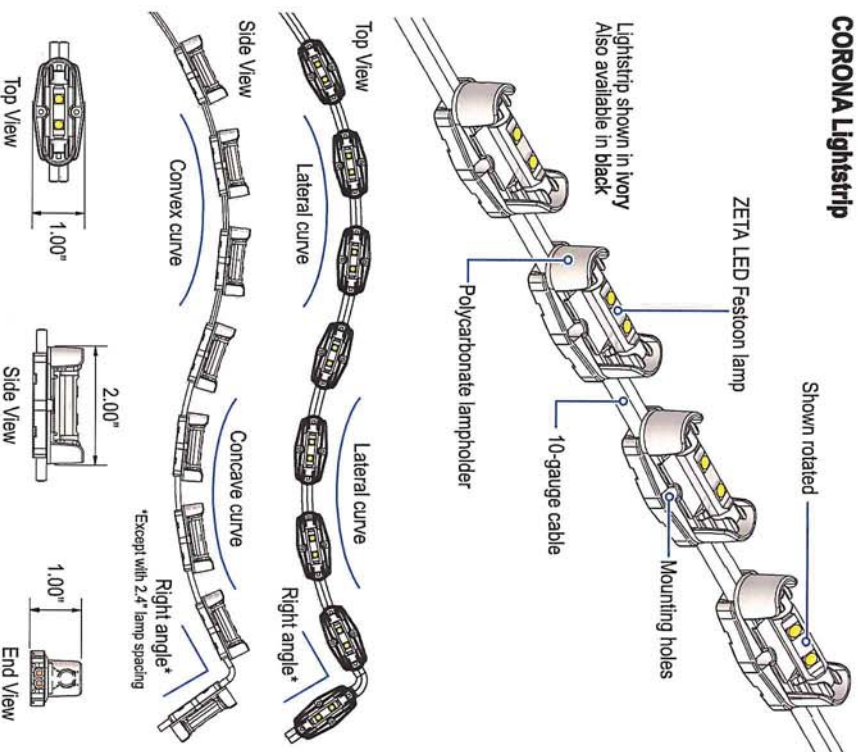
Electrical Specifications

- Consumes only 0.8W per lamp
- Runs on 24V AC (Use with available Power Supply)
- Dimmable with most standard magnetic low voltage dimming systems
- Certified for closet light applications in accordance with NEC Code, Section 410.16

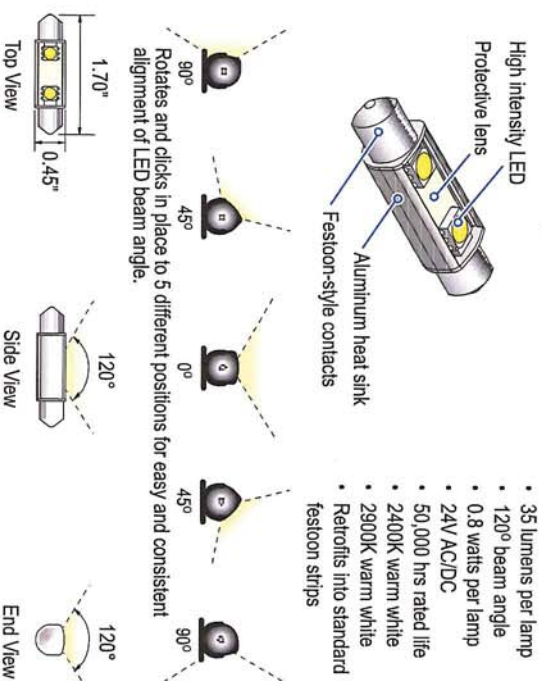
Heat Management and Rated Life

- 0.03 Amp operating current of LED generates less heat, which is further dissipated by aluminum heatsink
- Low operating current and effective heat management protect LED life
- Rated life is 50,000 hours, with minimum 70% lumen maintenance, when used in normal environmental conditions
- Long life results in low maintenance and replacement costs
- Produces no radiant heat; optimal for heat-sensitive applications

CORONA Lightstrip

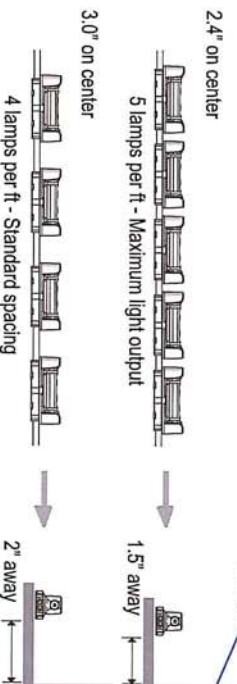


ZETA LED Festoon Lamp



Lamp Spacing & Mounting Position

For shadow-free light in coves and other indirect applications, keep minimum distance from illuminated surface.



How to Specify CORONA Z Series

COR -	I	-	Z29	-	2.4
CORONA Lightstrip Color		ZETA LED Festoon Lamp		Lamp Spacing	
I Ivory		Z24 2400K Warm white		2.4 2.4" on center	
B Black		Z29 2900K Warm white		3.0 3.0" on center	
Eg.					
COR -	B	-	Z29	-	3.0

Accessories



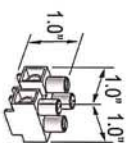
Lens Cover
COR-LC

To prevent tampering with lamps where lightstrip is in accessible area.
Clear polycarbonate.



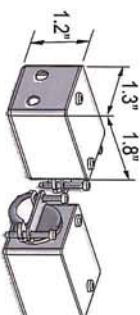
Mounting Screw
COR-MS

Standard #4 screw.
Use 2 per socket to mount lightstrip to surface.



Terminal Block
COR-TB

To connect feed wire from power supply to lightstrip, where conduit not required.



Junction Box (Terminal Block included)
COR-JBI (Ivory)
COR-JBB (Black)

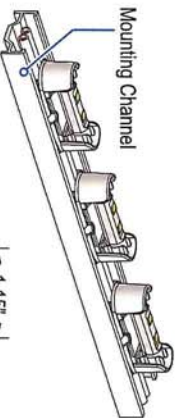
To connect feed wire from power supply to lightstrip, where conduit is required.
Accepts 1/2 or 3/8 trade size conduit.



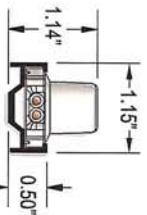
End Cap
COR-ECI (Ivory)
COR-ECB (Black)

To terminate lightstrip at end of run.
Snaps onto lightstrip.

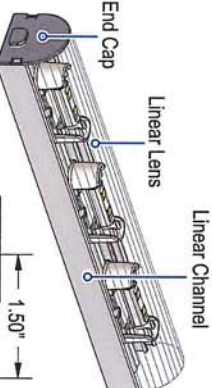
Channels & Lenses



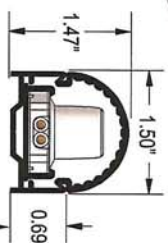
Mounting Channel
COR-MCI (Ivory)
COR-MCB (Black)



To align and mount lightstrip quickly in straight runs.
Screw-mount to surface and snap in lightstrip.
Eliminates need for screwing down each socket.
Made of PVC. Order in 5ft. sections, cut to length.



Linear Lens
COR-CLL (Clear)
COR-OLL (Opaque)



Acrylic lens available in serrated clear or smooth opaque. Order in 5ft sections, cut to length.
Requires Linear Channel.

Linear Channel
COR-SC (Satin)
COR-MC (Ivory)
COR-WC (White)
COR-BC (Black)
COR-AC (Polished Aluminum)
COR-GC (Polished Gold)

Aluminum channel for use with Linear Lens.
Screw mount to surface, snap in lightstrip, and snap in Linear Lens.

Standard finishes: satin, white or black
Optional: polished aluminum or polished gold.

Order in 5ft sections, cut to length.

Add suffix "EC" to above codes to order matching end caps.

Power Supplies

Ratings

Input: 120VAC or 277VAC 50/60Hz

Output: 24VAC

Output current: 4 Amps per output circuit

Maximum output power: 100W or 300W

Overload protection: Automatic shut-down / reset

Enclosure: NEMA 3R, with conduit knockouts

Operating temperature: -30° to 60° Celsius

Certification: ETL Listed Class 2 Power Supply

Dimming: Compatible with most standard magnetic low-voltage dimmers, wired to input side

Mount to secure surface in accessible area with adequate ventilation, no further than 20ft. from start of LED strip

Ordering Codes

Item Number	Watts	Volts	Outputs	Dimensions	Weight
APS-120-100	100 W	120VAC to 24VAC	1 X 4A	6.75" H x 6.25" W x 4.75" D	11 lbs
APS-277-100	100 W	277VAC to 24VAC	1 X 4A	6.75" H x 6.25" W x 4.75" D	11 lbs
APS-120-300	300 W	120VAC to 24VAC	3 X 4A	6.75" H x 6.25" W x 4.75" D	12 lbs
APS-277-300	300 W	277VAC to 24VAC	3 X 4A	6.75" H x 6.25" W x 4.75" D	15 lbs

How to Feed CORONA Z Series

2.4" spacing (Maximum 20ft per run)

100W / 4A	20'	100W power supply feeds up to 20ft
300W		
100W / 4A	20'	300W power supply feeds up to 60ft
100W / 4A	10'	(20ft per 100W output)
100W / 4A	5'	

Multiple sections of lightstrip may be daisy-chained together, so long as total length of run does not exceed 20ft.

3.0" spacing (Maximum 25ft per run)

100W / 4A	25'	100W power supply feeds up to 25ft
300W		
100W / 4A	25'	300W power supply feeds up to 75ft
100W / 4A	10'	(25ft per 100W output)
100W / 4A	5'	

Multiple sections of lightstrip may be daisy-chained together, so long as total length of run does not exceed 25ft.

SRT

Intended Use

Suitable for use in contamination-controlled environments ISO7 (Class 10,000) and ISO8 (Class 100,000) applications. Certain airborne contaminants can diminish integrity of acrylic. Refer to Acrylic Environmental Compatibility tables on pages 794-795 for suitable uses.

mitered-corner door frame features sealed cam latches and neoprene gasketing between door and housing.

swing-out hangers for use in dry or plaster ceilings.

Listings

UL Listed (standard). CSA Certified or NOM Certified (see Options). UL Listed for 25°C ambient and wet locations, for covered-ceiling applications.

Installation

Meets requirements for hose-downs up to 100 psi (see Options).

Construction

Code-gauge steel housing is completely sealed with silicone caulk. Aluminum

Suitable for use in 1", 1-1/2" and 2" wide T-bars, or with overlapping flange and



ORDERING INFORMATION

For shortest lead times, configure products using **bolded options**.

Example: 2SRT G 3 32 FW A12125V MWOLT 1/3 GEB10IS

Series	Trim	Number of lamps?	Lamp type	Door	Diffuser ⁴	Voltage	Ballast configuration
SRT 1" wide	G Grid, 1" to 1-1/2" wide tee	1	17 17W 18 (24") 2815	FW Aluminum inset, white	A12125V #12 pattern acrylic, .125" thick, inverted	MWOLT 120	(blank) Standard configuration
2SRT 2" wide	G20 Grid, 2" wide tee ¹	2	2815 31W 18-U (24", 1-5/8" leg)	FN Aluminum inset, natural	PCL12125V #12 pattern polycarbonate, .125" thick, inverted	277	One 3-lamp ballast
	F Overlapping flange	4	U316 31W 18-U (24", 6" leg)		SVA PS1 symmetric/asymmetric acrylic	347	One 4-lamp ballast
		6	U316 32W 18 (48") 40W 15 (24")		SVAR PS1 symmetric/asymmetric acrylic with radio filter grid ⁵		One 4-lamp ballast and 2-lamp ballast
		Not included.	32 40W 15 (24") 54T5HO 54W 15 (46") ³			2/3	Two 3-lamp ballasts

Ballast

GEB10IS T8 and CF electronic ballast, ≤10% THD, instant start

GEB10BS T8 and CF electronic ballast, ≤10% THD, programmed rapid start

GEB10PS T5 electronic ballast, ≤10% THD, programmed rapid start

GEB10PS90 T5HO 90° electronic ballast, ≤10% THD, programmed rapid start

Options⁶

ABC Triple neoprene gasketing (frame, lens and housing)

FPA Suitable for food-processing areas; meets USDA and FDA requirements⁷

LG Additional lens gasketing, neoprene

LPD Suitable for low-pressure hose-down, up to 100 psi⁸

CSA Meets Canadian standards

NOM Meets Mexican standards

AL Painted aluminum housing, white

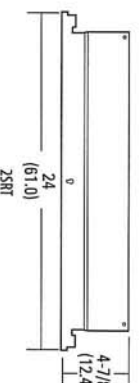
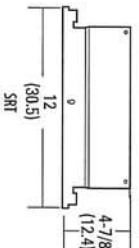
ADDITIONAL INFORMATION

For additional product information, visit www.lithonia.com.

NOMINAL SIZE	SERIES	NUMBER OF LAMPS	LAMP TYPE	DEPTH ⁹
--------------	--------	-----------------	-----------	--------------------

1" x 2'	SRT	1, 2, 3	17	4-7/8 (12.4)
1" x 2'	SRT	2	U31	4-7/8 (12.4)
1" x 2'	SRT	2	CF40	4-7/8 (12.4)
1" x 4'	SRT	1, 2, 3	32	4-7/8 (12.4)
1" x 4'	SRT	1, 2, 3	2815, 54T5HO	4-7/8 (12.4)
2" x 2'	2SRT	2, 3, 4, 6	17	4-7/8 (12.4)
2" x 2'	2SRT	2, 3	U31, U316	4-7/8 (12.4)
2" x 2'	2SRT	2, 3, 4	CF40	4-7/8 (12.4)
2" x 4'	2SRT	2, 3, 4, 6	32	4-7/8 (12.4)
2" x 4'	2SRT	2, 3, 4	2815, 54T5HO	4-7/8 (12.4)

Drawings are for dimensional detail only and may not represent actual mechanical configuration. Dimensions are shown in inches (centimeters) unless otherwise noted.



Notes

- Not available for 1X2 and 1X4.
- See Configurations table for lamp compatibility.
- Must be specified with GEB10PS90 ballast.
- Only pattern #12 shielding will ship inverted standard and is indicated by a V. Example: A12125V.
- Not available with lens gasketing.
- For other options, see pages 148-149.
- Must specify LPD and additional gasketing (i.e. LG).
- Requires minimum .125" thick lens and gasketing.
- Flanged fixture height is 5-3/4" (14.0).

Submittal Number:	035	Date Recd:	2/10/2014
Specifications Sections:	26 05 33 - - -		
Subcontractor:	Raceways & Boxes for Electrical Systems		
Submittal Type:	Product Data/Other - - -		
Description:	EMT Conduit, Flex Conduit, EMT Couplings, EMT Bodies, EMT Straps, EMT Bushings, Flex Fittings, Hangers, Wire Nuts, Boxes, Supports, Pull Rope		

-
- ☒ **1. Reviewed/No Exceptions Taken (UON)**
- ☐ **2. Make Corrections Noted (Resubmittal Not Required)**
- ☐ **3. Revise as Noted and Resubmit**
- ☐ **4. Incomplete Submittal, Submit Missing Information**
- ☐ **5. Rejected, Resubmit as Specified**
- ☐ **6. Retained for A/E/Owner Record Only, without A/E Review**

Other Comments

PRODUCT DATA & INITIAL STOCK INDEX

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DOTTIE L.H.	PULL ROPE	61	

RepublicConduit

Electrunite® Electrical Metallic Tubing

Simplify Installation, Save Time, Spend Less

Republic Conduit's Electrunite® Electrical Metallic Tubing (EMT) is the easiest electrical conduit to bend currently available in the marketplace. It is the thinnest and lightest of all of our products. Republic's EMT is manufactured from high quality, flat rolled steel and is produced using Republic Conduit's exclusive Electrogalvanizing process, which provides a protective surface coating of satin-smooth, corrosion-resistant zinc to the tube. A secondary treatment, following the zinc coating, extends the surface protection of Republic Conduit's EMT.

The finished Republic EMT is uniform in outside diameter (OD), wall thickness and ductility. Its structural strength ensures system integrity, as it doesn't sag or become brittle under extreme temperature, nor does it burn or decompose, producing harmful smoke or gases.

Large sizes of Republic's EMT offer an advantage for jobs where weight is a key factor in designing an electrical wiring system. Because of its thinner walls, large size EMT weighs approximately 40% less than Galvite® Electrical Rigid Metal Conduit-Steel (Galvite® ERMCS). This, in turn, allows Republic Conduit's customers to save on shipping and overall installation costs. And because the walls of this product are thinner, there is approximately 22% more space on the inside of the conduit as compared to identically sized Galvite® ERMCS.

Republic Conduit is committed to implementing effective quality management systems and processes. Our Georgia facility has maintained an ISO certification since 1995 and has been recertified in 2008. Also in 2008, the Kentucky facility has achieved its initial certification by successfully meeting the requirements for ISO 9001:2000.



Features and Benefits

Consistent Quality – Republic Conduit's entire production process is solely focused on manufacturing quality products made to our customers' specifications. Our products are also manufactured to the highest criteria of the American National Standards Institute (ANSI) and Underwriters Laboratories (UL). Because of its ductility and tight tolerances, our EMT promotes wrinkle-free bends, reduces kinking and minimizes splitting from repeated bending and straightening.

Cost-Effective Installations – Republic's EMT is a thin wall product with more inside wiring space, which means that less product is necessary to purchase.

- Easier wire pulling and pushing – diamond-shaped ID pattern* and protective, slick, inside coating (Silverslick®), reduce friction when pulling / pushing the wires. The Silverslick finish stays hard and smooth in various climate conditions, protecting your conduit and your investment.
- Accurate, time-efficient bending – Because 1/2", 3/4" and 1" sizes of Republic Conduit's EMT are Inch-Marked® and Guide-Lined®, the product is easier to cut and bend properly right away,** further reducing waste.
- Lower life-cycle costs – steel conduit is impact and fire resistant, chemically compatible with concrete and resists cracking, flaking and damage from severe bending. Its physical and mechanical properties ensure that the pipe has an extended shelf life, great for usage and storage without degradation in quality.

*Applies to 1/2", 3/4" and 1" EMT sizes.

**When using an EMT bender.

RepublicConduit

System Grounding and Electromagnetic Interference Shielding – Republic Conduit's EMT not only protects people from the harmful effects of faulty wiring, but also protects any nearby electric / electronic equipment from damage by the electromagnetic field.

Trade sizes range from 1/2" to 4".

Conduit is manufactured in the U.S.

Available Sizes

To easily identify the right size pipe for the job, simply look at our EMT's color coded ends (1/2" sizes use black tape, 3/4" sizes use red and 1" sizes use blue).

Inventories of our products are maintained by leading electrical distributors throughout North America. Contact our Agent in your area today or visit www.republicconduit.com for more information.

Weights and Dimensions*

Trade Size Designator		Outside Diameter (OD)		Nominal Inside Diameter (ID)		Nominal Wall Thickness		Nominal Weight per 100 Feet		Feet per Bundle	Standard Units				Color Code	Marking
		IN	mm	IN	mm	IN	mm	LBS	kg		Length		Weight			
US	Metric										FEET	m	LBS	kg		
1/2	16	0.705	17.93	0.622	15.80	0.042	1.97	30	13.6	100	7600	2135	2160	952.4	Black	Top
3/4	21	0.922	23.42	0.824	21.00	0.043	1.25	46	20.9	100	5000	1525	2300	1043.1	Red	Top
1	27	1.163	29.54	1.049	26.69	0.057	1.45	67	30.4	100	3000	915	2010	911.6	Blue	Top
1 1/4	35	1.510	38.35	1.300	33.05	0.065	1.65	101	45.8	50	2000	610	2020	916.1	Red	Top
1 1/2	41	1.740	44.20	1.610	40.89	0.066	1.66	116	52.6	50	1600	487.5	1740	789.1	Black	Top
2	53	2.197	56.00	2.067	52.50	0.085	1.65	148	67.1	30	1200	368	1776	805.4	Blue	Top
2 1/2	63	2.875	73.03	2.731	69.36	0.072	1.83	216	98.0		610	186.1	1318	597.7	Black	Top
3	78	3.500	88.90	3.356	85.24	0.072	1.93	263	119.3		510	155.6	1341	608.2	Blue	Top
3 1/2	91	4.000	101.6	3.834	97.38	0.083	2.11	349	158.3		370	112.9	1291	589.5	Black	Top
4	103	4.500	114.3	4.334	110.08	0.083	2.11	393	178.2		300	91.5	1179	534.7	Blue	Top

Outside Diameter

For trade size through 2"	±0.006	±0.13 mm
For trade size 2 1/2"	±0.010	±0.25 mm
For trade size 3"	±0.015	±0.38 mm
For trade sizes 3 1/2" and 4"	±0.020	±0.51 mm

* The values in foot / pound units are standard. The metric equivalents may be approximate. Conduit is always identified by its English or Metric Trade Size Designator.

* 1/2", 3/4", and 1" sizes of Republic's EMT are furnished bearing the Lock-Marked® and Guide-Lined® trademarks and with diamond knurled inside finish for easier wire pull / push.

* All sizes furnished in 10' lengths.

* Applicable length tolerance = ±1/4" (±6.35mm) without a coupling.

* 2 1/2", 3", 3 1/2", and 4" OD sizes are the same as corresponding trade sizes of Galvne EMT-SS.

Specifications

Architects desiring to specify Republic Conduit EMT should include the following description:

Electrical conductors shall be enclosed in Electrunite EMT in accordance with the National Electrical Code (NEC). Electrical metallic tubing shall be mild steel, electrically-welded, galvanized and produced to the following specifications:

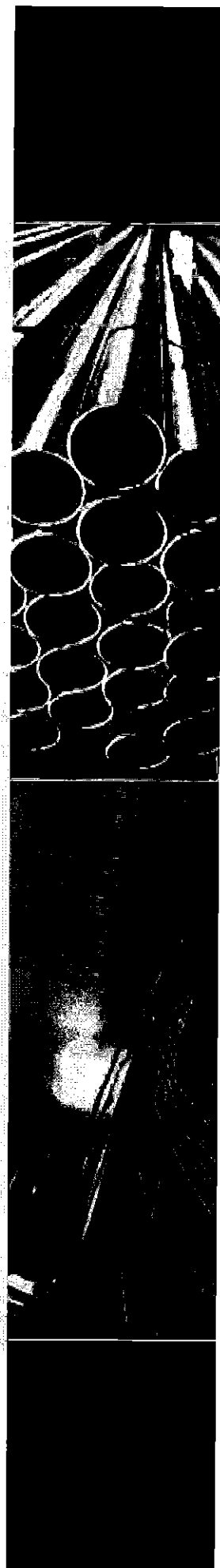
- UL Standard for Electrical Metallic tubing – Steel, UL797, File # E7465
- National Electric Code, 2002 Article 358 (1999 NEC, Article 348)
- Federal Specification WW-C-563

The above Federal Specification WW-C-563 may still be referenced; however, the federal government has canceled it and has adopted the Underwriters Laboratories 797 and American National Standards Institute C80.3 standards.

*All orders are subject to Republic Conduit's Terms and Conditions, a copy of which is available upon request.

www.republicconduit.com

7301 LOGISTICS DRIVE | LOUISVILLE, KY 40258 | USA | P 800-840-8823 | F 502-995-5873



Reduced Wall Flexible Steel Conduit Type RW-FSC

Product Features

- Reduced Wall Flexible Steel Conduit
- High grade hot dipped zinc galvanized low carbon steel
- Interlocking design
- Corrosion resistant

Interlocking Steel Armor



Typical Applications

- Flexible metal raceway for electrical power, control and communication cables
- Motor leads
- Listed assemblies
- Listed wire fixtures
- Manufactured wiring systems

Typical Specifications

- UL 1, UL 1479, File Reference E11831, CSA File Number 15035, CSA C22.2 No. 56 (trade size 3, 8 only)
- Federal Specification WW-C-566C, (now superseded by UL 1)
- NEC 250.118(5), 300.22(C), 348, 430.223, 501.10(D)(2), 645.5
- Cable Tray installations per NEC
- Environmental Air-Handling space installation NEC 300.22(C)
- UL Classified 1, 2 and 3-hour Through Penetration Fire Systems UL File R14141

Product Code	Trade Size (Inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/100 feet (pounds)	Internal Diameter (min/max) Inches	External Diameter (min/max) Inches	Bend Radius (Inches)
5501-22-00	3/4	12	25'		17	0.375 0.191	0.560 0.610	2
5501-24-00	1/4	12	50'		17	0.375 0.193	0.560 0.610	2
5501-30-00	3/8	12	100'		17	0.375 0.193	0.560 0.610	2
5501-42-00	3/8	12	250'		17	0.375 0.193	0.560 0.610	2
5501-45-00	1/2	12		500'	17	0.375 0.193	0.560 0.610	2
5501-60-00	3/2	12		1000'	17	0.375 0.193	0.560 0.610	2
5502-22-00	1/2	16	25'		27	0.625 0.645	0.860 0.920	3
5502-24-00	1/2	16	50'		27	0.625 0.645	0.860 0.920	3
5502-30-00	1/2	16	100'		27	0.625 0.645	0.860 0.920	3
5502-45-00	1/2	16		500'	27	0.625 0.645	0.860 0.920	3
5502-60-00	1/2	16		1000'	27	0.625 0.645	0.860 0.920	3
5503-22-00	3/4	21	25'		35	0.812 0.835	1.045 1.105	4
5503-24-00	3/4	21	50'		35	0.812 0.835	1.045 1.105	4
5503-30-00	3/4	21	100'		35	0.812 0.835	1.045 1.105	4
5503-45-00	3/4	21		500'	35	0.812 0.835	1.045 1.105	4
5503-60-00	3/4	21		1000'	35	0.812 0.835	1.045 1.105	4
5504-24-00	1	27	50'		51	1.000 1.040	1.300 1.380	5
5504-30-00	1	27		300'	51	1.000 1.040	1.300 1.380	5
5505-24-00	1 1/4	35	50'		63	1.250 1.300	1.550 1.630	6.25
5505-30-00	1 1/4	35		200'	63	1.250 1.300	1.550 1.630	6.25
5506-22-00	1 1/2	41	25'		76	1.500 1.575	1.850 1.950	7.50
5507-22-00	2	53	25'		109	2.000 2.000	2.350 2.450	10
5508-22-00	2 1/2	63	25'		165	2.500	2.840 3.060	12.50
5509-22-00	3	76	25'		197	3.000	3.360 3.560	15
5510-22-00	3 1/2	91	25'		230	3.500	3.860 4.060	17.50
5511-22-00	4	103	25'		263	4.000	4.360 4.560	20

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

*CSA certified

Review NEC® 348.60 and 250.118(5) for grounding requirements.



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Reduced Wall Aluminum Flexible Metal Conduit Type RW FAC

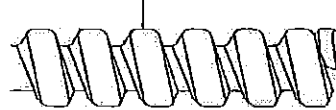
UL Classification

- Lightweight Reduced Wall Aluminum Flexible Conduit
- Premium aluminum alloy
- Interlocking design

Applications

- Flexible metal raceway for electrical power, control and communication cables
- Motor leads
- Listed assemblies
- Listed wire fixtures
- Manufactured wiring systems

Interlocking Aluminum Armor



UL and NEC Listings

- UL 1, UL 1479, File Reference E11831, CSA File Number 15035, CSA C22.2 No. 56 (trade size 3/8 only)
- Federal Specification WW-C-566C, (now superseded by UL 1)
- NEC 250.118(5), 300.22(C), 348, 430.223, 501.10(B)(2), 645.5
- Cable Tray installations per NEC
- Environmental Air-Handling space installation NEC 300.22(C)
- UL Classified 1, 2 and 3-hour Through-Penetration Fire Systems UL File R14141
- Los Angeles may allow longer lengths for grounding, check local codes for details

Standard Dimensions

Product Code	Trade Size (Inches)	Trade Size (mm)	Coll. Length (feet)	Reel Length (feet)	Approx. Weight/100 feet (pounds)	Internal Diameter (min/max) inches	External Diameter (min/max) inches	Bend Radius (inches)
5601-22-001	3/8	12	25'		6	0.375/0.393	0.560/0.610	2
5601-24-001	3/8	12	50'		6	0.375/0.393	0.560/0.610	2
5601-30-001	3/8	12	100'		6	0.375/0.393	0.560/0.610	2
5601-42-001	3/8	12	250'		6	0.375/0.393	0.560/0.610	2
5601-45-001	3/8	12		500'	6	0.375/0.393	0.560/0.610	2
5601-60-001	3/8	12		1000'	6	0.375/0.393	0.560/0.610	2
5602-22-001	1/2	16	25'		10	0.625/0.645	0.860/0.920	3
5602-24-001	1/2	16	50'		10	0.625/0.645	0.860/0.920	3
5602-30-001	1/2	16	100'		10	0.625/0.645	0.860/0.920	3
5602-45-001	1/2	16		500'	10	0.625/0.645	0.860/0.920	3
5602-60-001	1/2	16		1000'	10	0.625/0.645	0.860/0.920	3
5603-22-001	3/4	21	25'		12	0.812/0.835	1.045/1.105	4
5603-24-001	3/4	21	50'		12	0.812/0.835	1.045/1.105	4
5603-30-001	3/4	21	100'		12	0.812/0.835	1.045/1.105	4
5603-45-001	3/4	21		500'	12	0.812/0.835	1.045/1.105	4
5603-60-001	3/4	21		1000'	12	0.812/0.835	1.045/1.105	4
5604-24-001	1	27	50'		14	1.000/1.040	1.300/1.330	5
5604-30-001	1	27		100'	14	1.000/1.040	1.300/1.330	5
5605-24-001	1 1/4	35	50'		22	1.250/1.300	1.550/1.630	6.25
5605-30-001	1 1/4	35		200'	22	1.250/1.300	1.550/1.630	6.25
5606-22-001	1 1/2	41	25'		26	1.500/1.575	1.850/1.950	7.50
5607-22-001	2	52	25'		35	2.000/2.080	2.350/2.450	10
5608-22-001	2 1/2	63	25'		52	2.500	2.860/3.060	12.50
5609-22-001	3	76	25'		60	3.000	3.360/3.560	15
5610-22-001	3 1/2	91	25'		80	3.500	3.860/4.060	17.50
5611-22-001	4	103	25'		91	4.000	4.360/4.560	20

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.
*CSA certified

Review NEC® 348.60 and 250.118(5) for grounding requirements.

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alkore



EMT Fittings

Made in the USA Steel Compression Connectors



Compression type steel connectors used to join EMT to box or enclosure. Concrete tight.

 File No. E24001

Steel

Catalog Number	Trade Size	Unit Qty.	Std. Pkg.
250-US	1/2"	25	250
251-US	3/4"	25	250
252-US	1"	10	100
253-US	1 1/4"	---	25
254-US	1 1/2"	---	25
255-US	2"	---	10
256-US	2 1/2"	2	10
257-US	3"	2	10
258-US	3 1/2"	---	6
259-US	4"	---	6

Steel / Insulated Throat - 105°C

Catalog Number	Trade Size	Unit Qty.	Std. Pkg.
250-USI	1/2"	25	250
251-USI	3/4"	25	250
252-USI	1"	10	100
253-USI	1 1/4"	---	25
254-USI	1 1/2"	---	25
255-USI	2"	---	10
256-USI	2 1/2"	2	10
257-USI	3"	2	10
258-USI	3 1/2"	---	6
259-USI	4"	---	6

Raintight Compression Connectors



Compression type connector with internal sealing ring and knockout gasket to create a raintight seal when connecting EMT to box or enclosure.

 File No. E24001

Steel

Catalog Number	Trade Size	Unit Qty.	Std. Pkg.
250-SRT	1/2"	25	250
251-SRT	3/4"	25	250
252-SRT	1"	10	100
253-SRT	1 1/4"	---	25
254-SRT	1 1/2"	---	25
255-SRT	2"	---	10
256-SRT	2 1/2"	2	10
257-SRT	3"	2	10
258-SRT	3 1/2"	---	6
259-SRT	4"	---	6

Steel / Insulated Throat - 105°C

Catalog Number	Trade Size	Unit Qty.	Std. Pkg.
250-SRTI	1/2"	25	250
251-SRTI	3/4"	25	250
252-SRTI	1"	10	100
253-SRTI	1 1/4"	---	25
254-SRTI	1 1/2"	---	25
255-SRTI	2"	---	10
256-SRTI	2 1/2"	2	10
257-SRTI	3"	2	10
258-SRTI	3 1/2"	---	6
259-SRTI	4"	---	6

Compression Couplings



Compression type coupling used to join two lengths of EMT. Concrete-tight.

File No. E24001

Steel

Catalog Number	Trade Size	Unit Qty.	Std. Pkg.
260	1/2"	25	250
261	3/4"	20	200
262	1"	10	100
263	1 1/4"	---	25
264	1 1/2"	---	25
265	2"	---	10
266	2 1/2"	2	10
267	3"	2	10
268	3 1/2"	---	6
269	4"	---	6

Raintight Compression Couplings



Compression style coupling used to join two lengths of EMT. Internal sealing rings create a raintight seal. Concrete-tight/Raintight.

File No. E24001

Steel

Catalog Number	Trade Size	Unit Qty.	Std. Pkg.
260-SRT	1/2"	25	250
261-SRT	3/4"	20	200
262-SRT	1"	10	100
263-SRT	1 1/4"	---	25
264-SRT	1 1/2"	---	25
265-SRT	2"	---	10
266-SRT	2 1/2"	2	10
267-SRT	3"	2	10
268-SRT	3 1/2"	---	6
269-SRT	4"	---	6

Made in the USA Steel Compression Couplings



Compression type steel couplings used to join two lengths of EMT.

File No. E24001

Steel

Catalog Number	Trade Size	Unit Qty.	Std. Pkg.
260-US	1/2"	25	250
261-US	3/4"	20	200
262-US	1"	10	100
263-US	1 1/4"	---	25
264-US	1 1/2"	---	25
265-US	2"	---	10
266-US	2 1/2"	2	10
267-US	3"	2	10
268-US	3 1/2"	---	6
269-US	4"	---	6

Series 5 Die Cast Aluminum Conduit Outlet Bodies, Covers and Gaskets



Cooper Crouse-Hinds® Series 5 die cast copper-free aluminum conduit bodies, covers and gaskets are available for use with rigid or EMT conduit (with set screw). Conduit bodies are available in trade sizes 1/2"-4"; in the most popular conduit body shapes (C, LB, LL, LR, T) and 1/2"-2" in TB & X shapes. The Series 5 family is available as components or pre-packaged in various configurations as a SnapPack™ assembly. In addition, Series 5 is completely interchangeable with other manufacturers.



Applications:

- Act as pull outlets for conductors being installed
- Provide openings for making splices and taps in conductors
- Act as mounting outlets for lighting fixtures and wiring devices
- Connect conduit sections
- Provide taps for branch conduit runs
- Make 90° bends in conduit runs
- Provide for access to conductors for maintenance and future system changes

Features/Benefits:

- Die cast copper-free aluminum construction is lightweight and corrosion resistant for long reliable service
- Epoxy powder coat finish provides additional corrosion resistance in an aesthetically pleasing appearance
- Conduit bodies are supplied with threaded hubs for use with Rigid/IMC conduit or as a combination body (threaded and with set screws for use with EMT or Rigid/IMC conduit on trade sizes)
- Domed aluminum cover provides additional cubic capacity
- SnapPack™ available in choice of 3 configurations to match customer preferences.

Certifications & Compliances:

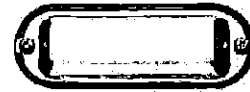
- UL Listed
- cUL Listed
- UL File No. E-15022

Standard Materials:

- Bodies—Copper-Free Aluminum with epoxy powder paint
- Covers—Aluminum with stainless steel screws, natural finish
- Gaskets—Neoprene

Series 5 Features:

- **Integral gasket covers.** The new sheet aluminum covers feature a raised dome with stainless steel screws supplied with nylon washers and a gasket for simplifying installation—reducing inventory and labor costs. These innovative covers are UL and cUL Listed and are NEMA 4 Rated.



- **SnapPack™.** Designed for ordering and receiving convenience, the SnapPack combines a body, gasket, and sheet aluminum cover in a single assembly.
 - Rigid body with traditional cover and gasket (e.g. LB15 CON)



- Combination body with traditional cover and gasket (e.g. LB15 MTC)



- NEMA 4 rigid body with new integral gasketed cover (e.g. X15 ICQ)



Series 5

Series 5 Die Cast Aluminum Conduit Outlet Bodies, Covers and Gaskets



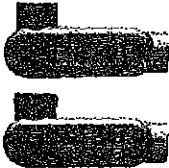
Series 5



TYPE LB

Outlet Body			SnapPack			Internal Col. In Cu. In.	Unit Qty	Weight Lbs Per 100*	Max # of Conductors
Trade Size	Rigid/IMC Cat#	Combo EMT, Rigid/IMC Cat#	Rigid/IMC Body, Traditional Cover, and Gasket Cat#	Combo EMT, Body, Traditional Cover, and Gasket Cat#	NEMA 4 Rigid/IMC Body and Integral Cover & Gasket Cat#				
1/8"	LB16	LB15 MT	LB15 CGN	LB15 MTC	LB15 ICG	4.35	10	26	-
1/4"	LB25	LB25 MT	LB25 CGN	LB25 MTC	LB25 ICG	7.3	10	48	3 # 6 AWG
1"	LB35	LB35 MT	LB35 CGN	LB35 MTC	LB35 ICG	12.2	5	64	3 # 4 AWG
1 1/4"	LB45	LB45 MT	LB45 CGN	LB45 MTC	-	32.3	2	140	3 # 2 AWG
1 1/2"	LB55	LB55 MT	LB55 CGN	LB55 MTC	-	33.8	2	160	3 # 1 1/2 AWG
2"	LB65	LB65 MT	LB65 CGN	LB65 MTC	-	71.2	1	260	3 # 1 1/4 AWG
2 1/4"	LB75	LB75 MT††	-	-	-	71.2	1	500	3 # 300 MCM
3"	LB85	LB85 MT††	-	-	-	183.5	1	600	3 # 350 MCM
3 1/2"	LB95	LB95 MT††	-	-	-	304.9	1	900	3 # 350 MCM
4"	LB105	LB105 MT††	-	-	-	308	1	1000	3 # 350 MCM

† Combo EMT, Rigid/IMC Fittings greater than 2" trade size are SET-SCREW ONLY (not combination threaded and set-screw)
*Weight Lbs Per 100 is listed for outlet body only



TYPE LR

Outlet Body			SnapPack			Internal Col. In Cu. In.	Unit Qty	Weight Lbs Per 100*	Max # of Conductors
Trade Size	Rigid/IMC Cat#	Combo EMT, Rigid/IMC Cat#	Rigid/IMC Body, Traditional Cover, and Gasket Cat#	Combo EMT, Body, Traditional Cover, and Gasket Cat#	NEMA 4 Rigid/IMC Body and Integral Cover & Gasket Cat#				
1/8"	LR16	LR15 MT	LR15 CGN	LR15 MTC	LR15 ICG	4.35	10	26	-
1/4"	LR25	LR25 MT	LR25 CGN	LR25 MTC	LR25 ICG	7.3	10	48	3 # 6 AWG
1"	LR35	LR35 MT	LR35 CGN	LR35 MTC	LR35 ICG	12.2	5	64	3 # 4 AWG
1 1/4"	LR45	LR45 MT	LR45 CGN	LR45 MTC	-	35.8	2	140	3 # 2 AWG
1 1/2"	LR55	LR55 MT	LR55 CGN	LR55 MTC	-	35.8	2	160	3 # 1 1/2 AWG
2"	LR65	LR65 MT	LR65 CGN	LR65 MTC	-	69.7	1	260	3 # 1 1/4 AWG
2 1/4"	LR75	-	-	-	-	69.7	1	500	3 # 300 MCM
3"	LR85	-	-	-	-	188	1	600	3 # 350 MCM
3 1/2"	LR95	-	-	-	-	308	1	900	3 # 350 MCM
4"	LR105	-	-	-	-	308	1	1000	3 # 350 MCM

*Weight Lbs Per 100 is listed for outlet body only

Series 5 **Die Cast Aluminum Conduit Outlet Bodies,** **Covers and Gaskets**



INTEGRAL GASKET COVERS

Aluminum Cover
 with Neoprene
 Integral Gasket



Trade Size	Cat. #	Unit Qty.	Weight Lbs. Per 100
1/2"	150 G	50	6
3/4"	250 G	50	7
1"	350 G	50	8
1 1/4" - 1 1/2"	450 G	50	17
2"	650 G	25	26
2 1/2" - 3"	850 G	10	80
3 1/2" - 4"	950 G	10	145

1/2" - 3" are NFPA 4 Rated

ALUMINUM COVERS

Aluminum



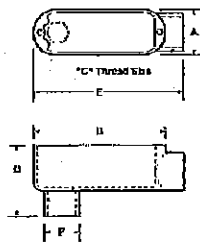
Trade Size	Cat. #	Unit Qty.	Weight Lbs. Per 100
1/2"	150	50	5
3/4"	250	50	6
1"	350	50	7
1 1/4" - 1 1/2"	450	50	15
2"	650	25	21
2 1/2" - 3"	850D	10	78
3 1/2" - 4"	950D	10	140

GASKETS

Neoprene

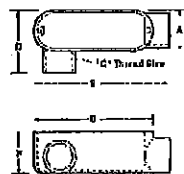


Trade Size	Cat. #	Unit Qty.	Weight Lbs. Per 100
1/2"	GASK015N	50	2
3/4"	GASK025N	50	2
1"	GASK035N	50	3
1 1/4" - 1 1/2"	GASK045N	50	6
2"	GASK065N	25	10
2 1/2" - 3"	GASK085N	10	20
3 1/2" - 4"	GASK095N	10	30



TYPE LB DIMENSIONS—THREADED & SET SCREW

Trade Size	A	B	C	D	E	F
1/2"	1.31	3.87	0.50	2.11	4.24	1.07
3/4"	1.63	4.67	0.75	2.38	4.67	1.28
1"	1.74	5.37	1.00	2.74	5.79	1.68
1 1/4"	2.49	7.23	1.25	3.50	7.79	1.99
1 1/2"	2.49	7.23	1.50	3.65	7.81	2.27
2"	3.10	9.46	2.00	4.24	10.20	2.91
2 1/4"	4.44	12.22	2.50	5.75	13.14	3.43
2 1/2"	4.44	12.22	3.00	6.41	13.14	4.13
3 1/4"	5.42	14.83	3.50	7.11	15.46	4.65
4"	5.42	14.83	4.00	7.20	15.46	5.16



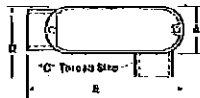
TYPE LR DIMENSIONS—THREADED & SET SCREW

Trade Size	A	B	C	D	E	F
1/2"	1.31	3.87	0.50	2.08	4.40	1.40
3/4"	1.63	4.67	0.75	2.28	5.07	1.64
1"	1.74	5.37	1.00	2.61	5.94	1.90
1 1/4"	2.49	7.23	1.25	3.50	7.87	2.85
1 1/2"	2.49	7.23	1.50	3.60	7.87	2.85
2"	3.10	9.46	2.00	3.83	9.88	3.41
2 1/4"	4.50	12.22	2.50	6.00	13.14	4.00
3"	4.65	12.22	3.00	6.10	13.00	4.70
3 1/4"	5.42	14.83	3.50	6.40	15.45	5.43
4"	5.42	14.83	4.00	6.40	15.45	5.43

Series 5 **Die Cast Aluminum Conduit Outlet Bodies,** **Covers and Gaskets**

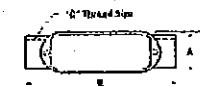


Series 5



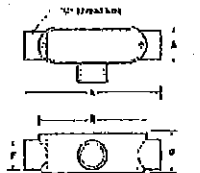
TYPE LL DIMENSIONS—THREADED & SET SCREW

Trade Size	A	B	C	D	E	F
1/2"	1.31	3.87	0.50	2.00	4.40	1.40
3/4"	1.53	4.67	0.75	2.28	5.07	1.64
1"	1.74	5.37	1.00	2.68	5.94	1.90
1 1/4"	2.49	7.23	1.25	3.50	7.87	2.85
1 1/2"	2.49	7.23	1.50	3.50	7.87	2.85
2"	3.10	9.46	2.00	3.83	10.20	3.41
2 1/2"	4.50	12.22	2.50	6.00	13.14	4.00
3"	4.65	12.22	3.00	6.10	13.00	4.70
3 1/2"	5.42	14.83	3.50	6.05	15.35	5.43
4"	5.42	14.83	4.00	6.05	15.35	5.43



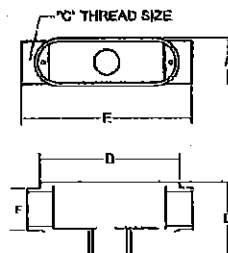
TYPE C DIMENSIONS—THREADED & SET SCREW

Trade Size	A	B	C	D	E	F
1/2"	1.31	3.87	0.50	1.40	4.82	1.07
3/4"	1.53	4.67	0.75	1.64	5.50	1.35
1"	1.74	5.37	1.00	1.90	6.44	1.67
1 1/4"	2.49	7.23	1.25	2.73	8.45	2.27
1 1/2"	2.49	7.23	1.50	2.73	8.45	2.27
2"	3.10	9.46	2.00	3.41	10.71	2.91
2 1/2"	4.50	12.22	2.50	4.30	14.00	3.50
3"	4.65	12.22	3.00	4.66	13.80	4.13
3 1/2"	5.42	14.83	3.50	5.36	16.10	5.30
4"	5.42	14.83	4.00	5.36	16.10	5.30



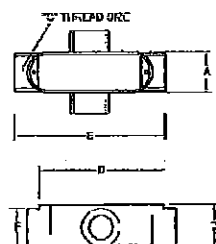
TYPE T DIMENSIONS—THREADED & SET SCREW

Trade Size	A	B	C	D	E	F
1/2"	1.31	3.87	0.50	1.40	4.82	1.07
3/4"	1.53	4.67	0.75	1.64	5.40	1.35
1"	1.74	5.37	1.00	1.90	6.33	1.15
1 1/4"	2.49	7.23	1.25	2.73	8.45	2.27
1 1/2"	2.49	7.23	1.50	2.73	8.45	2.27
2"	3.10	9.46	2.00	3.41	10.71	2.91
2 1/2"	4.50	12.22	2.50	4.00	14.00	3.50
3"	4.65	12.22	3.00	4.66	13.80	4.13
3 1/2"	5.42	14.83	3.50	5.40	16.00	5.30
4"	5.42	14.83	4.00	5.40	16.00	5.30



TYPE TB DIMENSIONS—THREADED & SET SCREW

Trade Size	A	B	C	D	E	F
1/2"	1.31	3.92	0.50	2.10	4.72	1.07
3/4"	1.53	4.64	0.75	2.40	5.51	1.28
1"	1.74	5.38	1.00	2.77	6.47	1.56
1 1/4"	2.49	7.24	1.25	3.58	8.25	1.98
1 1/2"	2.49	7.24	1.50	3.53	8.25	2.27
2"	3.10	9.50	2.00	4.50	10.50	2.91



TYPE X DIMENSIONS—THREADED & SET SCREW

Trade Size	A	B	C	D	E	F
1/2"	1.31	3.92	0.50	1.37	4.72	1.07
3/4"	1.53	4.64	0.75	1.63	5.51	1.28
1"	1.74	5.38	1.00	1.88	6.47	1.56
1 1/4"	2.49	7.24	1.25	2.61	8.25	1.99
1 1/2"	2.49	7.24	1.50	2.50	8.25	2.27
2"	3.10	9.50	2.00	3.40	10.50	2.91

One Hole EMT Straps



Malleable

Steel

To support EMT to mounting surface.

④ File No. E161206; 907 thru 910; 921 thru 925

④ File No. E161206; 907-S thru 910-S;
924-S thru 925-S

④ File No. LR39354; 907 thru 910; 907-S thru 910-S;
920-S thru 925-S

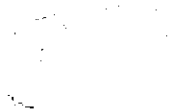
Malleable Iron

Catalog Number	Trade Size	Unit Qty.	Std. Pkg.
920	1/2"	100	1000
921	3/4"	50	500
922	1"	50	500
923	1 1/4"	---	100
924	1 1/2"	---	100
925	2"	---	50
907	2 1/2"	---	25
908	3"	---	10
909	3 1/2"	---	10
910	4"	---	10

Zinc Plated Steel

Catalog Number	Trade Size	Unit Qty.	Std. Pkg.
920-S	1/2"	100	1000
921-S	3/4"	100	500
922-S	1"	50	500
923-S	1 1/4"	---	100
924-S	1 1/2"	---	100
925-S	2"	---	50
907-S	2 1/2"	---	25
908-S	3"	---	25
909-S	3 1/2"	---	10
910-S	4"	---	10

EMT Nail Straps



Nail type strap to support EMT to mounting surface.

Zinc Plated Steel

Catalog Number	Trade Size	Unit Qty.	Std. Pkg.
920-NS	1/2"	100	1000
921-NS	3/4"	100	1000
922-NS	1"	100	1000

Clamp Backs



Provides space between conduit and mounting surface. For use with malleable straps.

④ File No. E161206; 941 thru 950

Malleable Iron

Catalog Number	Trade Size	Unit Qty.	Std. Pkg.
941	1/2"	50	250
942	3/4"	50	250
943	1"	25	100
944	1 1/4"	20	100
945	1 1/2"	10	100
946	2"	5	50
947	2 1/2"	2	10
948	3"	2	10
949	3 1/2"	---	5
950	4"	---	5

Rigid and IMC Conduit Fittings

Combination Couplings



Used to join rigid or IMC to liquid tight flexible metal conduit.

File No. E9391

Malleable Iron

Catalog Number	LT Trade Size	Rigid Trade Size	Unit Qty.	Std. Pkg.
4369-LT	3/8"	1/2"	25	125
4370-LT	1/2"	1/2"	20	100
4371-LT	3/4"	3/4"	10	50
4372-LT	1"	1"	5	25
4373-LT	1 1/4"	1 1/4"	4	20
4374-LT	1 1/2"	1 1/2"	3	15
4375-LT	2"	2"	2	10

Pull Caps



Used for capping EMT, rigid and most bushings.

Polyethylene

Catalog Number	Trade Size	Unit Qty.	Std. Pkg.
341	1/2"	100	1000
342	3/4"	100	1000
343	1"	100	1000
344	1 1/4"	50	250
345	1 1/2"	25	100
346	2"	25	100

Bushings



Used with locknut to protect conductors inside threaded rigid or IMC conduit entering a box. Rounded surface of bushing prevents damage to wire insulation.

File No. E9391: 321 thru 332

File No. E11259: 321-B thru 330-B

File No. LR39354

Plastic - 105°C

Catalog Number	Trade Size	Unit Qty.	Std. Pkg.
321	1/2"	100	1000
322	3/4"	100	1000
323	1"	50	500
324	1 1/4"	---	100
325	1 1/2"	---	100
326	2"	---	50
327	2 1/2"	---	25
328	3"	---	25
329	3 1/2"	---	25
330	4"	---	20
331	5"	---	5
332	6"	---	5

Plastic - 150°C

Catalog Number	Trade Size	Unit Qty.	Std. Pkg.
321-B	1/2"	100	1000
322-B	3/4"	100	1000
323-B	1"	50	500
324-B	1 1/4"	---	100
325-B	1 1/2"	---	100
326-B	2"	---	50
327-B	2 1/2"	---	25
328-B	3"	---	25
329-B	3 1/2"	---	25
330-B	4"	---	20

90° Connectors



90° fitting with cover used for connecting flexible metal conduit to box or enclosure.

File No. E9391

File No. LR39354: 807 thru 811;
807-I thru 811-I

Malleable Iron

Catalog Number	Trade Size	K.O. Size	Unit Qty.	Std. Pkg. Qty.
807	1"	1"	5	25
808	1 1/4"	1 1/4"	---	10
809	1 1/2"	1 1/2"	---	5
810	2"	2"	---	5
811	2 1/2"	2 1/2"	---	5
812	3"	3"	---	5
813	3 1/2"	3 1/2"	---	1
814	4"	4"	---	1

Malleable Iron / Insulated Throat - 105°C

Catalog Number	Trade Size	K.O. Size	Unit Qty.	Std. Pkg. Qty.
807-I	1"	1"	5	25
808-I	1 1/4"	1 1/4"	2	10
809-I	1 1/2"	1 1/2"	1	5
810-I	2"	2"	1	5
811-I	2 1/2"	2 1/2"	1	5
812-I	3"	3"	1	5
813-I	3 1/2"	3 1/2"	---	1
814-I	4"	4"	---	1

90° Connectors



3/8" thru 2"



Over 2"

90° fitting with cover used for connecting flexible metal conduit to box or enclosure. 804- thru 808- DC2 & DCI2 also suitable for use with armored cable.

File No. E9391: 801-, 809-, 810-DC2 & DCI2

File No. E20534: 804-, 806-, 807-, 808-DC2 & DCI2

File No. LR39354

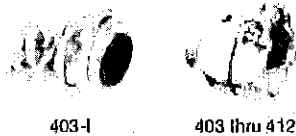
Zinc Die Cast

Catalog Number	Trade Size	K.O. Size	Range		Unit Qty.	Std. Pkg. Qty.
			Min.	Max.		
801-DC2	3/8"	1/2"	---	---	25	250
804-DC2	1/2"	1/2"	.750"	.875"	25	100
806-DC2	3/4"	3/4"	.875"	1.000"	10	50
807-DC2	1"	1"	1.187"	1.312"	---	25
808-DC2	1 1/4"	1 1/4"	1.500"	1.625"	---	25
809-DC2	1 1/2"	1 1/2"	---	---	---	5
810-DC2	2"	2"	---	---	---	5
811-DC2	2 1/2"	2 1/2"	---	---	---	5
812-DC2	3"	3"	---	---	---	5
813-DC2	3 1/2"	3 1/2"	---	---	---	1
814-DC2	4"	4"	---	---	---	1

Zinc Die Cast / Insulated Throat - 105°C

Catalog Number	Trade Size	K.O. Size	Range		Unit Qty.	Std. Pkg. Qty.
			Min.	Max.		
801-DCI2	3/8"	1/2"	---	---	25	250
804-DCI2	1/2"	1/2"	.750"	.875"	25	100
806-DCI2	3/4"	3/4"	.875"	1.000"	10	50
807-DCI2	1"	1"	1.187"	1.312"	---	25
808-DCI2	1 1/4"	1 1/4"	1.500"	1.625"	---	25
809-DCI2	1 1/2"	1 1/2"	---	---	---	5
810-DCI2	2"	2"	---	---	---	5

Squeeze Connectors



To connect flexible metal conduit to box or enclosure.

④ File No. E9391: All except 403-I

④ File No. E20534: 403-I

⑤ File No. LR39354: 407 thru 420; 407-I thru 420-I

Malleable Iron

Catalog Number	Trade Size	K.O. Size	Unit Qty.	Std. Pkg. Qty.
403	3/8"	1/2"	50	500
407	1/2"	1/2"	50	200
408	3/4"	3/4"	25	100
410	1"	1"	---	25
412	1 1/4"	1 1/4"	---	25
414	1 1/2"	1 1/2"	---	10
416	2"	2"	---	10
417	2 1/2"	2 1/2"	---	5
418	3"	3"	---	5
419	3 1/2"	3 1/2"	---	5
420	4"	4"	---	5

Malleable Iron / Insulated Throat - 105°C

Catalog Number	Trade Size	K.O. Size	Unit Qty.	Std. Pkg. Qty.
403-I	3/8"	1/2"	50	500
407-I	1/2"	1/2"	50	200
408-I	3/4"	3/4"	25	100
410-I	1"	1"	5	25
412-I	1 1/4"	1 1/4"	5	25
414-I	1 1/2"	1 1/2"	2	10
416-I	2"	2"	2	10
417-I	2 1/2"	2 1/2"	1	5
418-I	3"	3"	1	5
419-I	3 1/2"	3 1/2"	1	5
420-I	4"	4"	1	5

Squeeze Connectors



To connect flexible metal conduit to box or enclosure.

④ File No. E9391

⑤ File No. No. LR39354: 408-DC2

Zinc Die Cast

Catalog Number	Trade Size	K.O. Size	Unit Qty.	Std. Pkg. Qty.
403-DC2	3/8"	1/2"	50	500
407-DC2	1/2"	1/2"	50	200
408-DC2	3/4"	3/4"	25	100
410-DC2	1"	1"	10	100
412-DC2	1 1/4"	1 1/4"	10	100
414-DC2	1 1/2"	1 1/2"	5	50
416-DC2	2"	2"	---	10
417-DC2	2 1/2"	2 1/2"	---	5
418-DC2	3"	3"	---	5
419-DC2	3 1/2"	3 1/2"	---	5
420-DC2	4"	4"	---	5

Zinc Die Cast / Insulated Throat - 105°C

Catalog Number	Trade Size	K.O. Size	Unit Qty.	Std. Pkg. Qty.
407-DCI2	1/2"	1/2"	50	200
408-DCI2	3/4"	3/4"	25	100
410-DCI2	1"	1"	10	100
412-DCI2	1 1/4"	1 1/4"	10	100
414-DCI2	1 1/2"	1 1/2"	5	50
416-DCI2	2"	2"	---	10

Snap-In Fittings

E-Z Lock® Connectors - Steel



AMC-50

AMC-5075

AMC-52

Used to connect armored or metal clad cable to box or enclosure. Use slotted, Phillips or Robertson head screwdriver. For MCI-A cables refer to cable connector compatibility charts in the technical guide section. Use with anti-short bushing.

File No. E20534

Steel / Insulated Throat - 105°C

Catalog Number	Trade Size	K.O. Size	Cable Range		Throat Opening	Unit Qty.	Std. Pkg. Qty.
			Min.	Max.			
AMC-50	3/8"	1/2"	.40"	.62"	.375"	50	500
AMC-5075	1/2"	1/2"	.62"	.92"	.565"	25	250
AMC-52	3/8"	1/2"	.43"	.62"	.560"	25	250
AMC-75	3/4"	3/4"	.566"	.81"	.560"	25	100

Cable Sizes for E-Z Lock™ Connectors:

AMC-50: 14/2 to 10/3 Armored or Metal Clad Cable
 AMC-5075: 10/4 to 6/4 Armored or Metal Clad Cable
 AMC-52: 14/2 to 10/3 Armored or Metal Clad Cable
 AMC-75: 10/3 to 6/3 Armored or Metal Clad Cable

Whipper-Snap® Screw-in Connectors



For connecting flexible metal conduit to box or enclosure. Screw connector into conduit and snap into electrical box. Patented Whipper-Snap design.

File No. E20534

Zinc Die Cast

Catalog Number	Trade Size	K.O. Size	Unit Qty.	Std. Pkg. Qty.
GF38SP	3/8"	1/2"	100	1000
GF50SP	1/2"	1/2"	100	1000

Whipper-Snap® Snap-In "U" Shaped Strap Duplex Connectors



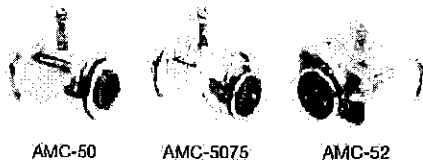
For connecting 14/2 (.42" Ø min) to 10/3 (.61" Ø max) AC/MC cable or 3/8" flexible metal conduit to box or enclosure. Connectors simply snap into the electrical box. For MCI-A cables refer to cable connector compatibility charts in the technical guide section. Suitable for maintaining grounding continuity when installed in accordance with the NEC. Patented Whipper-Snap design.

File No. E20534

Zinc Die Cast / Insulated Throat - 105°C

Catalog Number	Trade Size	K.O. Size	Unit Qty.	Std. Pkg. Qty.
SG3838ASP	3/8"	1/2"	20	200

E-Z Lock® Connectors - Steel



AMC-50

AMC-5075

AMC-52

Used to connect flexible metal conduit to box or enclosure. Use slotted or Phillips head screwdriver. For MCI-A cables refer to cable connector compatibility charts in the technical guide section. Use with anti-short bushing.

File No. E20534

Steel / Insulated Throat - 105°C

Catalog Number	Trade Size	K.O. Size	Throat Opening	Unit Qty.	Std. Pkg. Qty.
AMC-50	3/8"	1/2"	.375"	50	500
AMC-5075	1/2"	1/2"	.585"	25	250
AMC-52	3/8"	1/2"	.560"	25	250

Quick Connect

Single Screw Strap Connectors



Used to connect flexible metal conduit to box or enclosure. For MCI-A cables refer to cable connector compatibility charts in the technical guide section.

File No. E9391, E20534

Zinc Die Cast

Catalog Number	Trade Size	K.O. Size	Unit Qty.	Std. Pkg. Qty.
BL-17	1/2"	1/2"	50	200
BL-18	3/4"	3/4"	25	100
BL-19	1"	1"	10	100

Zinc Die Cast / Insulated Throat - 105°C

Catalog Number	Trade Size	K.O. Size	Unit Qty.	Std. Pkg. Qty.
BL-17I	1/2"	1/2"	50	200
BL-18I	3/4"	3/4"	25	100
BL-19I	1"	1"	10	100

Whipper-Snap® Single Screw, Strap Type Connectors



Used to connect 14/2 (.43" Ø min) to 10/3 (.61" Ø max) armored or metal clad cable or flexible metal conduit to box or enclosure. For MCI-A cables refer to cable connector compatibility charts in the technical guide section. Patented Whipper-Snap design.

File No. E20534

Zinc Die Cast

Catalog Number	Trade Size	K.O. Size	Unit Qty.	Std. Pkg. Qty.
560SP	3/8"	1/2"	50	500

Quick Connect

Zinc Die Cast / Insulated Throat - 105°C

Catalog Number	Trade Size	K.O. Size	Unit Qty.	Std. Pkg. Qty.
560ASP	3/8"	1/2"	50	500

Quick Connect

Armored/Metal Clad Cable Fittings

E-Z Lock® Connectors - Steel



AMC-50

AMC-5075

AMC-52

Used to connect armored or metal clad cable to box or enclosure. Use slotted, Phillips or Robertson head screwdriver. For MCI-A cables refer to cable connector compatibility charts in the technical guide section. Use with anti-short bushing.

File No. E20534

Steel / Insulated Throat - 105°C

Catalog Number	Trade Size	K.O. Size	Cable Range		Throat Opening	Unit Qty.	Std. Pkg. Qty.
			Min.	Max.			
AMC-50	3/8"	1/2"	.40"	.62"	.375"	50	500
AMC-5075	1/2"	1/2"	.62"	.92"	.565"	25	250
AMC-52	3/8"	1/2"	.43"	.62"	.560"	25	250
AMC-75	3/4"	3/4"	.56"	.81"	.560"	25	100

Cable Sizes for E-Z Lock™ Connectors:

AMC-50: 14/2 to 10/3 Armored or Metal Clad Cable
 AMC-5075: 10/4 to 6/4 Armored or Metal Clad Cable
 AMC-52: 14/2 to 10/3 Armored or Metal Clad Cable
 AMC-75: 10/3 to 6/3 Armored or Metal Clad Cable

Single Screw Strap Connectors



The BL-17 is used to connect 8/3 AC90 cable. The BL-18 is used to connect 6/3 AC90 and the BL-19 is used to connect 3/3 AC90 to box or enclosure. For MCI-A cables refer to cable connector compatibility charts in the technical guide section.

File No. E9391, E20534.

Zinc Die Cast

Catalog Number	Trade Size	K.O. Size	Unit Qty.	Std. Pkg. Qty.
BL-17	1/2"	1/2"	50	200
BL-18	3/4"	3/4"	25	100
BL-19	1"	1"	10	100

Zinc Die Cast / Insulated Throat - 105°C

Catalog Number	Trade Size	K.O. Size	Unit Qty.	Std. Pkg. Qty.
BL-17I	1/2"	1/2"	50	200
BL-18I	3/4"	3/4"	25	100
BL-19I	1"	1"	10	100

Conduit Hangers



To secure EMT or rigid conduit to threaded rod, insulator supports, or directly to mounting surface. 2100-BN thru 2140-BN come with carriage bolt and nut. All others have 2-way slotted/Phillips bolt with integral threads.

File No. E161206

Zinc Plated Steel with Bolt

Catalog Number	Trade Size	Rigid Size	EMT Size	Std. Pkg. Qty.
2100	0	3/8" & 1/2"	1/2"	100
2110	1	3/4"	3/4"	100
2120	2	1"	1"	100
2125	2 1/2	---	1 1/4"	50
2130	3	1 1/4"	1 1/2"	50
2140	4	1 1/2"	---	50

Zinc Plated Steel with Bolt & Nut

Catalog Number	Trade Size	Rigid Size	EMT Size	Std. Pkg. Qty.
2100-BN	0	3/8" & 1/2"	1/2"	100
2110-BN	1	3/4"	3/4"	100
2120-BN	2	1"	1"	100
2125-BN	2 1/2	---	1 1/4"	50
2130-BN	3	1 1/4"	1 1/2"	50
2140-BN	4	1 1/2"	---	50
2150	5	2"	2"	50
2160	6	2 1/2"	2 1/2"	25
2170	7	3"	3"	25
2180	8	3 1/2"	3 1/2"	10
2190	9	4"	4"	10

Tubing and Coaxial Straps



Used to support tubing and coaxial cable to mounting surface.

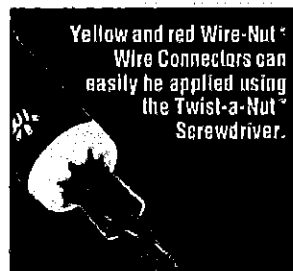
Zinc Plated Steel

Catalog Number	Trade Size	Unit Qty.	Std. Pkg. Qty.
CC-25	1/4"	100	1000
CC-31	5/16"	100	1000
CC-37	3/8"	100	1000



WIRE TERMINATION

Wire-Nut® Wire Connectors



Yellow and red Wire-Nut® Wire Connectors can easily be applied using the Twist-a-Nut™ Screwdriver.

- Five color-coded models cover wire sizes from 22 to 6 AWG
- Fixed, square-wire spring creates its own threads – maintains a secure positive grip that will not relax over time
- No pre-twisting required – positive grip design provides fast, easy installation
- Deep skirt helps protect against flash-over
- Reusable for easy circuit changes and additions
- Tough, UL94V-2 flame-retardant shell rated at 105°C (221°F)
- UL Listed to 486C and CSA certified to C22.2 #188; comply with Federal Specification W-S-610E



Wire Connector
774A

Cu/Cu
Only



Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity	Cat. No.
71B ^a	Gray	300V 22 to 16 AWG Min. 2 #22 – Max. 2 #16	300V .34mm ² to 1.5mm ² Min. 2-.34mm ² Max. 3-1.5mm ²	Box of 100 Carton of 1,000 Keg of 25,000 (loose pack) Barrel of 150,000	30-071 30-171 30-271 30-871
72B ^a	Blue	300V 22 to 14 AWG Min. 2 #22 – Max. 3 #16	300V .34mm ² to 2.5mm ² Min. 2-.34mm ² Max. 3-1.5mm ²	Box of 100 Carton of 1,000 Keg of 10,000 (loose pack) Barrel of 85,000	30-072 30-172 30-272 30-872
73B ^a	Orange	600V [*] 22 to 14 AWG Min. 1 #18 & 1 #20 Max. 2 #14	600V [*] .34mm ² to 2.5mm ² Min. 1-.75mm ² w/1-.50mm ² Max. 4-1.5mm ² w/1-.50mm ²	Box of 100 Jar of 300 Carton of 1,000 Keg of 5,000 (10 bags, 500 ea.) Keg of 10,000 (loose pack) Barrel of 50,000	30-073 30-073J 30-173 30-273 30-673 30-873
74B ^a	Yellow	600V [*] 18 to 12 AWG Min. 2 #18 Max. 4 #14 & 1 #18	600V [*] .75mm ² to 4.0mm ² Min. 2-.75mm ² Max. 4-2.5mm ² w/1-.75mm ²	Box of 100 Jar of 175 Carton of 1,000 Keg of 5,000 (10 bags, 500 ea.) Keg of 10,000 (loose pack) Barrel of 35,000	30-074 30-074J 30-174 30-274 30-674 30-874
76B ^a	Red	600V [*] 18 to 6 AWG Min. 2 #14 Max. 4 #12	600V [*] .75mm ² to 16.0mm ² Min. 2-2.5mm ² Max. 2-4.0mm ²	Box of 100 Jar of 150 Carton of 1,000 Keg of 2,500 (10 bags, 250 ea.) Barrel of 15,000	30-076 30-076J 30-176 30-276 30-876

*1,000V maximum in fixtures and signs

High Temperature Wire-Nut® Wire Connectors

All of the Wire-Nut® Wire Connector features plus:

- Black, thermoplastic shell designed to withstand extreme heat build-up found in high-wattage light fixtures and signs. UL Listed to 150°C (302°F)
- Four models to cover wire ranges from 22 to 12 AWG



Wire Connector
774A

Cu/Cu
Only



Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity	Cat. No.
71B ^a	Black	300V 22 to 16 AWG Min. 2 #22 Str Max. 2 #16	300V .34mm ² to 1.5mm ² Min. 2-.34mm ² Max. 2-1.5mm ²	Box of 100 Carton of 1,000 Keg of 25,000 (loose pack) Barrel of 150,000	30-3627 30-151 30-251 30-801
72B ^a	Black	300V 22 to 14 AWG Min. 2 #22 Max. 3 #16	300V .34mm ² to 2.5mm ² Min. 2-.34mm ² Max. 3-1.5mm ²	Box of 100 Carton of 1,000 Keg of 10,000 (loose pack) Barrel of 85,000	30-3628 30-152 30-252 30-802
73B ^a	Black	600V [*] 22 to 14 AWG Min. 1 #18 w/1 #20 Max. 2 #14	600V [*] .34mm ² to 2.5mm ² Min. 1-.75mm ² w/1-.50mm ² Max. 4-1.5mm ² w/1-.50mm ²	Box of 100 Carton of 1,000 Keg of 10,000 (loose pack) Barrel of 50,000	30-3629 30-153 30-253 30-803
59B ^a	Black	600V [*] 22 to 12 AWG Min. 2 #20 Max. 3 #14	600V [*] .34mm ² to 4.0mm ² Min. 2-.5mm ² Max. 3-2.5mm ²	Box of 100 Carton of 1,000 Keg of 5,000 (loose pack) Barrel of 35,000	30-059 30-159 30-259 30-809

*1,000V maximum in fixtures and signs

Spring Connectors and Tools

3M™ Performance Plus Wire Connectors (T/R+, T/Y+, O/B+, R/Y+, B/G+)

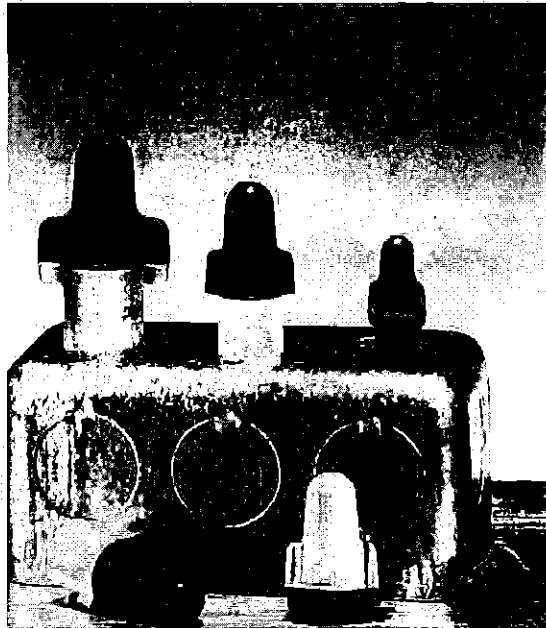
Because of their increased wire range, just four Performance Plus Wire Connectors handle the work of seven standard connectors. T/R+ replaces the yellow, tan and red connectors in the majority of field applications. T/Y+ replaces the yellow, orange, blue and gray wire nuts in most applications. O/B+ replaces the orange, blue and gray wire connector style connectors, as well as 70% of the yellow wire connector and wing style connectors. R/Y+ replaces both red and yellow wing style connectors. B/G+ covers both the large blue and gray connectors. This simplifies selection of the right connector for a wide range of wiring jobs. There's also less inventory to manage, and a better chance you'll have the connector you need to do every job.

3M™ Scotchlok™ Electrical Spring Connectors Y and R

3M Scotchlok Electrical Spring Connectors Y and R are the original color-coded wire connectors with a unique soft shell that is easy on the fingers. They're flexible, yet durable, and provide a compact, fully insulated connection that won't cut or abrade wires. Their torque fins are engineered to provide a comfortable and secure grip, which makes installation fast and back-off easy.



3M™ Scotchlok™ Electrical Spring Connectors



3M™ Performance Plus Wire Connectors

3M™ Electrical Spring and Grounding Connectors 312, 412, 512 and 512G

The quick-spin, wing-torque design of Electrical Spring and Grounding Connectors 312, 412 and 512 is easy on your fingers. The day's last connection will feel almost as good as the first. Generous expansion room accommodates a wide range of solid or stranded wire. Use the 312 (yellow) connector for wire combinations from 3 #20 to 3 #12 AWG, the 412 (tan) connector for 2 #20 to 3 #10 AWG and the 512 (red) connector for 2 #18 to 5 #12 AWG. The 512G (green) is used for grounding connections.










3M™ Electrical Spring and Grounding Connectors

PHONE 800-245-3573

SPRING CONNECTORS









3M PERFORMANCE PLUS WIRE CONNECTORS (T/R+, T/Y+, O/B+, R/Y+, B/G+)		
Wires feed deeper	Increases level of pull-out	Security
Wide wire ranges	Three connectors replace seven	Saves money and time
Flexible skirt	Covers overstripped wires	Safety
New internal design	Smoother and faster installation	Improves quality and saves time
3M SCOTCHLOK ELECTRICAL SPRING CONNECTORS (V, R, G, B)		
Soft outer shell	Easy on the fingers	Easy to use
Steel inner shell	No wire poke-through	Safety
Compact design	Fit into tight places	Easy to use
Able to back off	Rewire if needed	Saves time
3M ELECTRICAL SPRING AND GROUNDING CONNECTORS (312, 412, 512, 512G)		
Hard shell	Easy to grip	Easy to use
Wings	Easy to turn	Easy to use
3M HIGHLAND WIRE CONNECTORS (H-29, H-30, H-31, H-33, H-35)		
Low price	Economical	Save money

Specifications for Spring Connectors

Connector	Wire Range	Rated Voltage	Wire Size	Temperature	Certifications	Notes
 3M Connector O/B+	Flexible skirt w/square wire	600V (1000V in signs, lighting fixtures and luminaries)	2#22-3#12 3#14 (1.0 mm ² -5.0 mm ²)	221°F (105°C)	UL SR CE [†]	WCD-P WCD-H
 3M Connector T/R+	Quick bite, compact size wide wire range	600V (1000V in signs, lighting fixtures and luminaries)	up to 5#12s (2.0 mm ² -16.0 mm ²)	221°F (105°C)	UL SR CE [†]	WCD-P WCD-H
 3M Connector R/Y+	Flexible skirt w/square wire	600V (1000V in signs, lighting fixtures and luminaries)	2#18-2#8 5#12 (2.0 mm ² -16.0 mm ²)	221°F (105°C)	UL SR CE [†]	WCD-P WCD-H
 3M Connector T/Y+	Flexible skirt w/square wire	600V (1000V in signs, lighting fixtures and luminaries)	2#22-3#12 3#14 (1.0 mm ² -5.0 mm ²)	221°F (105°C)	UL SR CE [†]	WCD-P WCD-H
 3M Connector B/G+	Flexible skirt w/square wire	600V (1000V in signs, lighting fixtures and luminaries)	4#14-2#6-3#8 (10.0 mm ² -31.6 mm ²)	221°F (105°C)	UL SR CE [†]	—
 3M Scotchlok Connector R	Insulated w/vinyl skirt and live spring and steel shell	600V (1000V in signs, lighting fixtures and luminaries)	9#18, 4-6#16, 2-5#14, 2-5#12, 1-3#10 (5.0 mm ² -10.0 mm ²)	221°F (105°C)	UL SR CE [†]	WCD-P WCD-H
 3M Scotchlok Connector Y	Insulated w/vinyl skirt and live spring and steel shell	600V (1000V in signs, lighting fixtures and luminaries)	5-8#22, 4-6#20, 2-5#18, 2-3#16, 1-3#14, 1-2#12, 1#10 (2.0 mm ² -17.5 mm ²)	221°F (105°C)	UL SR CE [†]	WCD-P WCD-H

PHONE 800-245-3573

Specifications for Spring Connectors

Connector	Material	Rated Voltage (V)	Wire Size (AWG) (mm)	Temp. Range (°F/°C)	UL Listing	Notes
 3M Connector 312	Nylon Insulated w/live spring	600V (1000V in signs, lighting fixtures and luminaries)	5-7#22, 3-6#20, 2-6#18 2-6#16, 1-4#14, 1-3#12 (1.5 mm ² -10.0 mm ²)	221°F (105°C)	UL SP [†]	WCD-P WCD-H
 3M Connector 412	Nylon Insulated w/live spring	600V (1000V in signs, lighting fixtures and luminaries)	5-7#22, 3-6#20, 2-6#18 2-6#16, 1-4#14, 1-4#12 (1.5 mm ² -10.0 mm ²)	221°F (105°C)	UL SP [†]	WCD-P WCD-H
 3M Connector 512	Nylon Insulated w/live spring	600V (1000V in signs, lighting fixtures and luminaries)	2-10#18, 2-7#16, 1-6#14, 1-5#12, 1-3#10, 1-2#8, 1#6 (2.0 mm ² -16.0 mm ²)	221°F (105°C)	UL SP [†]	WCD-P WCD-H
 3M Connector 512G	Nylon Insulated grounding connector	600V (1000V in signs, lighting fixtures and luminaries)	2-5#14, 2-5#12, 2-3#10, 1#14 w/1-4#12, 2#14 w/ 1-3#12, 3#14 w/2 or 3#12, 4#14 w/1#12, 1#14 w/1- 3#10, 2#14 w/1 or 2#10, 3#14 w/1#10, 1#12 w/1 or 2#10, 2#12 w/1#10 (4.0 mm ² -15.0 mm ²)	221°F (105°C)	UL SP [†]	—
 3M Highland Connector H-29	Round wire spring	300V	22-16 AWG [Two 22 AWG/One 20 AWG Min.] [Two 16 AWG Max.] (1.5 mm ² -2.5 mm ²)	221°F (105°C)	UL SP	—
 3M Highland Connector H-30	Round wire spring	300V	22-16 AWG [Two 22 AWG Min.] [Three 16 AWG Max.] (1.5 mm ² -3.0 mm ²)	221°F (105°C)	UL SP	—
 3M Highland Connector H-31	Round wire spring	600V (1000V in signs, lighting fixtures and luminaries) Depending upon combinations	18-14 AWG [Two 18 AWG Min.] [Two 14 AWG Max.] (2.0 mm ² -4.0 mm ²)	221°F (105°C)	UL SP	—
 3M Highland Connector H-33	Round wire spring	600V (1000V in signs, lighting fixtures and luminaries) Depending upon combinations	18-12 AWG [Three 18 AWG Min.] [Three 14 AWG Max.] (2.0 mm ² -0.5 mm ²)	221°F (105°C)	UL SP	—
 3M Highland Connector H-35	Round wire spring	600V (1000V in signs, lighting fixtures and luminaries) Depending upon combinations	18-10 AWG [Three 18 AWG Min.] [Two #10 AWG Max.] (2.5 mm ² -16.0 mm ²)	221°F (105°C)	UL SP	—

*For information on additional Cu wire connections, refer to package or consult 3M technical service.
†UL Listed E23438 and CSA Certified LR15503

Ordering Information for Spring Connectors

Connector	Part Number	Quantity	Package
3M Connector O/B+	43152	100/box	1,000 box
	43153	500/jug	10,000 container
	54454*	100/box	1,000 box
3M Connector T/Y+	54455*	750/jug	6,000 jug
	54456*	N/A	25,000 keg
	43154	100/box	1,000 box
3M Connector R/Y+	43155	500/jug	4,000 container
	55218*	100/box	1,000 box
3M Connector T/Y+	55219*	500/jug	10,000 container
	43150	50/box	500 box
3M Connector B/G+	43151	250/jug	2,000 container

*UPC prefix 051128-

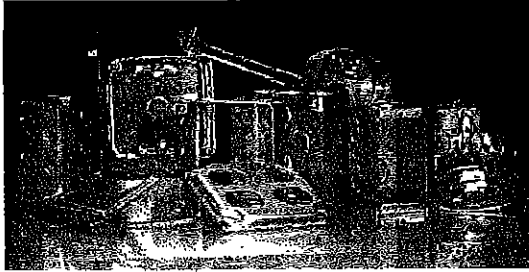
FAX 800-245-0329



Steel Square Boxes



4" SQUARE OUTLET BOXES AND COVERS



Features:

- Ideal for exposed work applications, providing an easy method for the installation of electrical devices (switches, receptacles, fans, lights, etc.)
- Raised ground screw location in the welded boxes saves time in installation
- Available with pre-installed ground screws and pigtails for increased labor savings
- Knockouts are suitable for use without a bonding jumper in circuits above or below 250 volts
- Available in two depths for differing cubic capacity requirements
- Welded or drawn construction to match customer preference
- Extensive cover offering to meet various customer applications and needs

Applications:

- For use with conduit
- Can be ceiling mounted to be used as a junction box or to mount lighting fixtures
- Available in red for fire alarm applications

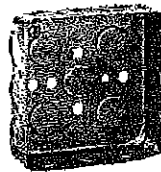
Certifications and Compliances:

- UL Listed

4" SQUARE OUTLET BOXES – 18.0 CUBIC INCH CAPACITY

1 1/4" DEEP – FOR CONDUIT

UL LISTED



TP408

KNOCKOUTS

Cat. #	Bracket	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP408	—	Drawn	12 – 1/2"	5 – 1/2"	50	61

Steel Boxes

Steel Square Boxes



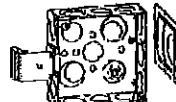
4" SQUARE OUTLET BOXES - 22.0 CUBIC INCH CAPACITY (WELDED)† 21.0 CUBIC INCH CAPACITY (DRAWN)

1 1/2" DEEP - FOR CONDUIT

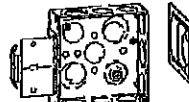
UL LISTED



TP404/TP404PF



TP404SSB



TP404MSB



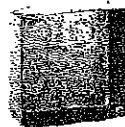
TP404RED



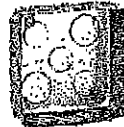
TP425



TP469



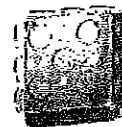
TP830*



TP405



TP412
TP839*



TP410



TP414RED



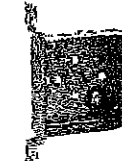
TP414



TP418



TP423RED



TP423

KNOCKOUTS

Cat. #	Metal Stud Sizes	Bracket	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP405MSB	—	MSB	We ded	8 - 1/2", 4 - 1/2" + 3/4" E	2 - 1/2", 2 - 1/2" + 3/4" E	25	102
TP405MSBPF†	—	MSB	We ded/Open Back	8 - 1/2", 4 - 1/2" + 3/4" E	2 - 1/2", 2 - 1/2" + 3/4" E	25	102
TP404**	—	—	We ded	8 - 1/2", 4 - 1/2" + 3/4" E	2 - 1/2", 2 - 1/2" + 3/4" E	50	72
TP404MSB	—	MSB	We ded	8 - 1/2", 4 - 1/2" + 3/4" E	2 - 1/2", 2 - 1/2" + 3/4" E	25	83
TP404RED	—	—	We ded	8 - 1/2", 4 - 1/2" + 3/4" E	2 - 1/2", 2 - 1/2" + 3/4" E	50	72
TP404REDMSB	—	MSB	We ded	8 - 1/2", 4 - 1/2" + 3/4" E	2 - 1/2", 2 - 1/2" + 3/4" E	25	83
TP404PF‡	—	—	We ded	8 - 1/2", 4 - 1/2" + 3/4" E	2 - 1/2", 2 - 1/2" + 3/4" E	50	72
TP404SSB	—	SSB	We ded	8 - 1/2", 4 - 1/2" + 3/4" E	2 - 1/2", 2 - 1/2" + 3/4" E	50	83
TP425**	—	'VP'	We ded	6 - 1/2", 3 - 1/2" + 3/4" E	2 - 1/2", 2 - 1/2" + 3/4" E	25	82
TP423**	All	'VMS'	We ded	6 - 1/2", 3 - 1/2" + 3/4" E	2 - 1/2", 2 - 1/2" + 3/4" E	25	81
TP423RED	All	'VMS'	We ded	6 - 1/2", 3 - 1/2" + 3/4" E	2 - 1/2", 2 - 1/2" + 3/4" E	25	81
TP405	—	—	Drawn	4 - 1/2", 6 - 1/2" + 3/4" C	3 - 1/2", 2 - 1/2"	50	67
TP405MSB	—	MSB	Drawn	4 - 1/2", 6 - 1/2" + 3/4" C	3 - 1/2", 2 - 1/2"	25	78
TP410	—	—	Drawn	12 - 1/2"	5 - 1/2"	50	67
TP410MSB	—	MSB	Drawn	12 - 1/2"	5 - 1/2"	50	67
TP412	—	—	Drawn	8 - 3/4"	3 - 1/2", 2 - 3/4"	50	67
TP412MSB	—	MSB	Drawn	8 - 3/4"	3 - 1/2", 2 - 3/4"	25	78
TP414	—	—	Drawn	8 - 1/2", 4 - 1/2"	3 - 1/2", 2 - 3/4"	50	67
TP414MSB	—	MSB	Drawn	8 - 1/2", 4 - 1/2"	3 - 1/2", 2 - 3/4"	25	78
TP414RED	—	—	Drawn	8 - 1/2", 4 - 1/2"	3 - 1/2", 2 - 3/4"	50	67
TP414REDMSB	—	MSB	Drawn	8 - 1/2", 4 - 1/2"	3 - 1/2", 2 - 3/4"	25	83
TP418	—	'F', Set Flush	We ded	6 - 1/2", 3 - 1/2" + 3/4" E	2 - 1/2", 2 - 1/2" + 3/4" E	25	84
TP467	—	—	We ded	8 - 3/4"	2 - 1/2", 2 - 1/2" + 3/4" E	50	72
TP467MSB	—	MSB	We ded	8 - 3/4"	2 - 1/2", 2 - 1/2" + 3/4" E	25	78
TP469	ALL	'VMS'	We ded	6 - 3/4"	2 - 1/2", 2 - 1/2" + 3/4" E	25	81
Alr Plenum	—	—	—	—	—	—	—
TP830*	—	—	Drawn	8 - 1/2", 4 - 1/2"	3 - 1/2", 2 - 3/4"	50	72
TP839*	—	—	Drawn	8 - 1/2" C	3 - 1/2", 2 - 3/4"	50	72

† For Air Plenum (No Mounting Holes) - Not UL Listed

**UL Listed

† All welded 4" square outlet boxes have a raised dimple for ground screw

‡ TP404PF includes ground screw with pigtail lead

Steel Square Boxes



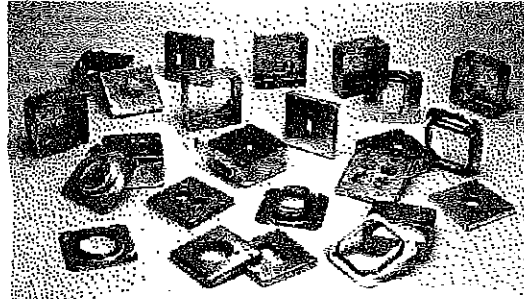
4¹¹/₁₆" SQUARE OUTLET BOXES AND COVERS

Applications:

- For use with conduit
- For use in commercial and industrial applications, where larger sized conductor or wiring devices are needed and additional volume is required
- Can be ceiling mounted to be used as a junction box or to mount lighting fixtures
- Available in red for fire alarm applications

Features:

- Ideal for exposed work applications, providing an easy method for the installation of electrical devices (switches, receptacles, fans, lights, etc.)
- Raised ground screw location in the welded boxes saves time in installation
- Concentric knockouts have a 1/2" and 3/4" knockout in the same location for customer flexibility
- Knockouts are suitable for use without a bonding jumper in circuits above or below 250 volts
- Available in two depths for differing cubic capacity requirements
- Welded or drawn construction to match customer preference
- Extensive cover offering to meet various customer applications and needs



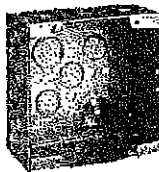
Certifications and Compliances:

- UL Listed

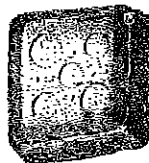
4¹¹/₁₆" SQUARE OUTLET BOXES – 29.5 CUBIC INCH CAPACITY

1¹/₂" DEEP WITH CONDUIT KOs

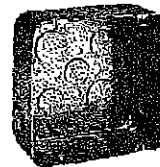
UL LISTED



TP523



TP548



TP549

KNOCKOUTS					
Cat. #	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100
29.5 CUBIC INCH CAPACITY					
TP523	Welded	12 - 1/2" & 3/4" C	2 - 1/2", 2 - 3/4"	25	89
TP523PF†	Welded	12 - 1/2" & 3/4" C	2 - 1/2", 2 - 3/4"	25	89
TP548	Drawn	8 - 1/2", 4 - 1/4"	3 - 1/2", 2 - 1/2"	25	84
TP548MSB	Drawn	8 - 1/2", 4 - 1/4"	3 - 1/2", 2 - 1/2"	25	95
TP549	Drawn	8 - 1/2", 6 - 1/2" & 3/4" C	3 - 1/2", 2 - 1/2"	25	84
TP549MSB	Drawn	8 - 1/2", 6 - 1/2" & 3/4" C	3 - 1/2", 2 - 1/2"	25	95

†TP catalog numbers ending in PF include ground screw with pigtail stud

Steel Boxes

Steel Square Boxes



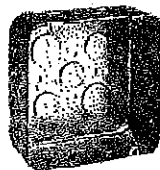
4 1/16" SQUARE OUTLET BOXES - 42.0 AND 44.0 CUBIC INCH CAPACITY

2 1/8" DEEP WITH CONDUIT KOs

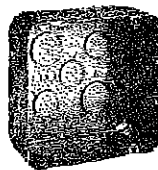
UL LISTED



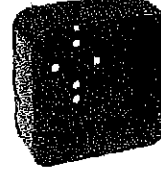
TP563



TP554
TP842*



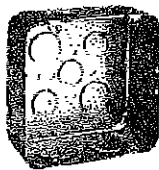
TP556
TP832*



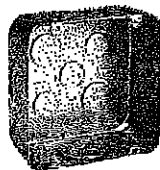
TP556RED



TP558
TP835*



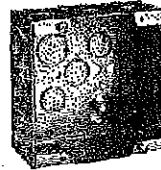
TP560
TP838*



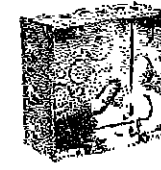
TP562



TP557



TP521



TP525

			KNOCKOUTS				
Cat. #	Description	Brackets	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100	
42.0 CUBIC INCH CAPACITY							
TP563	Drawn	—	6 - 1/2", 6 - 1/2" & 1/4" C	3 - 1/2", 2 - 1/4"	25	104	
TP563MSB	Drawn	MSB	6 - 1/2", 6 - 1/2" & 1/4" C	3 - 1/2", 2 - 1/4"	25	115	
TP554	Drawn	—	8 - 3/8"	3 - 1/2", 2 - 1/4"	25	104	
TP554MSB	Drawn	MSB	8 - 3/8"	3 - 1/2", 2 - 1/4"	25	115	
TP556	Drawn	—	8 - 1/2", 4 - 3/4"	3 - 1/2", 2 - 1/4"	25	104	
TP558PF†	Drawn	—	8 - 1/2", 4 - 3/4"	3 - 1/2", 2 - 1/4"	25	104	
TP558MSB	Drawn	MSB	8 - 1/2", 4 - 3/4"	3 - 1/2", 2 - 1/4"	25	115	
TP558RED	Drawn	—	8 - 1/2", 4 - 3/4"	3 - 1/2", 2 - 1/4"	25	104	
TP558REDMSB	Drawn	MSB	8 - 1/2", 4 - 3/4"	3 - 1/2", 2 - 1/4"	25	115	
TP558	Drawn	—	4 - 1/2", 4 - 1"	3 - 1/2", 2 - 1/4"	26	104	
TP558MSB	Drawn	—	4 - 1/2", 4 - 1"	3 - 1/2", 2 - 1/4"	26	104	
TP558REDMSB	Drawn	MSB	4 - 1/2", 4 - 1"	3 - 1/2", 2 - 1/4"	25	115	
TP560	Drawn	—	8 - 1"	3 - 1/2", 2 - 1/4"	25	104	
TP560MSB	Drawn	—	8 - 1"	3 - 1/2", 2 - 1/4"	26	115	
TP562‡	Drawn	—	4 - 1 1/8"	3 - 1/2", 2 - 1/4"	26	104	
TP567	Drawn	'VS'	5 - 1/2", 4 - 1/2" & 1/4" C	3 - 1/2", 2 - 1/4"	25	120	
44.0 CUBIC INCH CAPACITY							
TP521	Welded	—	12 - 1/2" & 1/4" C	2 - 1/2", 2 - 1/4"	25	115	
TP521PF†	Welded	—	12 - 1/2" & 1/4" C	2 - 1/2", 2 - 1/4"	25	115	
TP525**	Welded	—	12 - 1/2" & 1/4" E	2 - 1/2", 2 - 1/4", 1/4" E	25	115	
Air Plenum							
TP835*		—	4 - 1/2", 4 - 1"	3 - 1/2", 2 - 1/4"	25	115	
TP836*		—	8 - 1"	3 - 1/2", 2 - 1/4"	26	115	
TP842*		—	12 - 1/2"	3 - 1/2", 2 - 1/4"	26	115	
TP832*		—	8 - 1/2", 4 - 3/4"	3 - 1/2", 2 - 1/4"	25	115	

*For Air Plenum (No Mounting Holes) - No UL Listed

†Raised ground bump contains holes for 2 ground screws

‡TP catalog numbers ending in PF indicate ground screw with pigtail lead

§Not UL Listed

Steel Boxes

SINGLE-GANG BOXES

DIE CAST ALUMINUM

Applications

- For use in branch circuit wiring in wet, damp, or dry locations
- May be used as a weatherproof junction box, or as a housing for receptacles, switches, and GFCI's

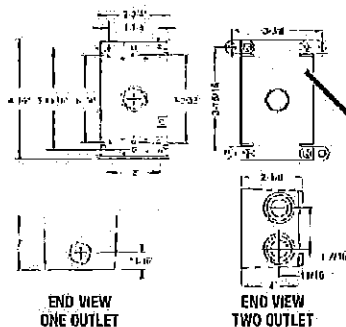
Product Features

- Reinforced connector outlets
- State-of-the-art powder coat finish
- Eight box mounting options with detachable lugs provided
- Two closure plugs included
- Ground screw installed
- Multi-lingual instructions in each package
- Internal threads on hubs comply with NEMA requirements. Hubs accept all threaded fittings and threaded conduit.

Compliances

- - Standard 514A
- - C22.2 No. 18
- NEMA 3R Rated

SINGLE-GANG BOXES: GENERAL DIMENSIONS

5320-0 TO 5320-7
5324-0 TO 5324-5

5321-0 TO 5321-6, 5330-0



5322-0, 5331-0



5323-0, 5332-0



5385-0 TO 5387-0

WEATHERPROOF BOXES,
COVERS AND LIGHTING

ORDERING INFORMATION - DIMENSIONS

2" DEEP, WITH LUGS - THREE THREADED OUTLETS - 4-1/2" x 2-3/4"

CATALOG NUMBER	CUBIC IN.	DESCRIPTION		PKG. TYPE	STD. PKG.	UPC BAR CODE
		COLOR	OUTLETS			
5320-0	18.3	Gray	3-1/2"	Shrink	20	
5320-1	18.3	White	3-1/2"	Shrink	20	
5320-2	18.3	Bronze	3-1/2"	Shrink	20	
5320-5	18.3	Gray	3-1/2"	Carded	6	
5320-6	18.3	White	3-1/2"	Carded	6	
5320-7	18.3	Bronze	3-1/2"	Carded	6	
5324-0	18.3	Gray	3-3/4"	Shrink	20	
5324-5	18.3	Gray	3-3/4"	Carded	6	

2" DEEP, WITH LUGS - FOUR THREADED OUTLETS - 4-1/2" x 2-3/4"

CATALOG NUMBER	CUBIC IN.	DESCRIPTION		PKG. TYPE	STD. PKG.	UPC BAR CODE
		COLOR	OUTLETS			
5321-0	18.3	Gray	4-1/2"	Shrink	20	
5321-1	18.3	White	4-1/2"	Shrink	20	
5321-2	18.3	Bronze	4-1/2"	Shrink	20	
5321-5	18.3	Gray	4-1/2"	Carded	6	
5321-6	18.3	White	4-1/2"	Carded	6	
5330-0	18.3	Gray	4-3/4"	Shrink	20	

2" DEEP, WITH LUGS - FIVE THREADED OUTLETS - 4-1/2" x 2-3/4"

CATALOG NUMBER	CUBIC IN.	DESCRIPTION		PKG. TYPE	STD. PKG.	UPC BAR CODE
		COLOR	OUTLETS			
5322-0	18.3	Gray	5-1/2"	Shrink	20	
5331-0	18.3	Gray	5-3/4"	Shrink	20	
5323-0	18.3	Gray	5-1/2"	Shrink	20	
5332-0	18.3	Gray	5-3/4"	Shrink	20	

2-5/8" DEEP, WITH LUGS - THREE THREADED OUTLETS - 4-1/2" x 2-3/4"

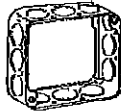
CATALOG NUMBER	CUBIC IN.	DESCRIPTION		PKG. TYPE	STD. PKG.	UPC BAR CODE
		COLOR	OUTLETS			
5385-0	22.5	Gray	3-1/2"	Shrink	15	
5386-0	22.5	Gray	3-3/4"	Shrink	15	
5387-0	22.5	Gray	3-1"	Shrink	15	



Steel Square Boxes & Covers

Steel Boxes

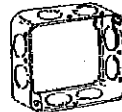
4" SQUARE EXTENSION RINGS - 21.0 CUBIC INCH CAPACITY 1½" DEEP WITH CONDUIT KNOCKOUTS



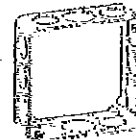
TP424



TP422



TP426



TP428,
TP833*, TP841*

* For Air Plenum (No Mounting Holes)

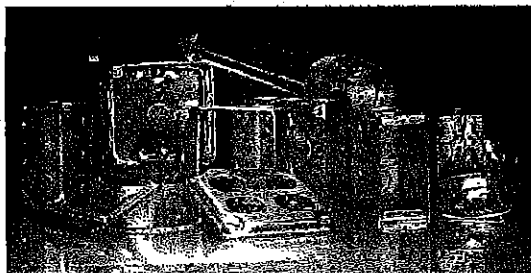
Product Number	KNOCKOUTS		Std. Unit Pkg.	Wt. Lbs. Per 100
	Sides	Bottom		
TP424	12-½"	—	50	46
TP422	8-½", 4-½" + ¾"E	—	50	50
TP426	8-¾"	—	50	46
TP428	8-½", 4-¾"	—	50	46
Air Plenum				
TP833*	8-½", 4-¾"	—	50	48
2½" DEEP WITH CONDUIT KNOCKOUTS				
Air Plenum				
TP841*	8-½", 4-¾"	—	25	66

Note: TP833 and TP841 require the use of TP854, purchased separately.

Steel Square Boxes



4" SQUARE OUTLET BOXES AND COVERS



Features:

- Ideal for exposed work applications, providing an easy method for the installation of electrical devices (switches, receptacles, fans, lights, etc.)
- Raised ground screw location in the welded boxes saves time in installation
- Available with pre-installed ground screws and pigtails for increased labor savings
- Knockouts are suitable for use without a bonding jumper in circuits above or below 250 volts
- Available in two depths for differing cubic capacity requirements
- Welded or drawn construction to match customer preference
- Extensive cover offering to meet various customer applications and needs

Applications:

- For use with conduit
- Can be ceiling mounted to be used as a junction box or to mount lighting fixtures
- Available in red for fire alarm applications

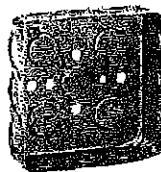
Certifications and Compliances:

- UL Listed

4" SQUARE OUTLET BOXES - 18.0 CUBIC INCH CAPACITY

1 1/4" DEEP - FOR CONDUIT

UL LISTED



TP408

KNOCKOUTS

Cat. #	Bracket	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP408	-	Drawn	12 - 1/4"	6 - 1/4"	50	61

Steel Boxes

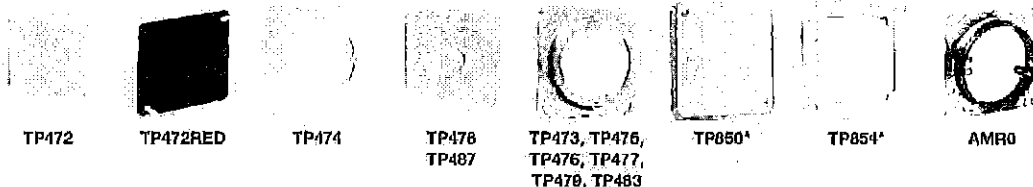
Steel Square Covers



COVERS FOR 4" SQUARE BOXES - CUBIC INCH CAPACITY (SEE BELOW)

UL LISTED

#8-32 screw used on covers



Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100	Capacity Cu. In.
TP472†	Flat Blank	50	31	—
TP472RED	Flat Blank	50	31	—
TP474†	Flat Blank, Open With Ears 2 1/4"	50	21	—
TP478†	Flat with 1/2" ko	50	31	—
TP487†	Flat with 1/2" ko	50	29	—
TP473†	Raised 1/4", Open With Ears 2 1/4"	50	23	1.3
TP476†	Raised 1/4", Open With Ears 2 1/4"	50	26	4.0
TP477†	Raised 1/4", Open With Ears 2 1/4"	50	27	5.0
TP479†	Raised 1/2", Open With Ears 2 1/4"	25	31	0.0
TP479†	Raised 1", Open With Ears 2 1/4"	25	34	7.0
TP483†	Raised 1 1/2", Open With Ears 2 1/4"	25	37	8.5
AMR0**	Round Adjustable Mud Ring	25	44	6.1

For Plenum

TP850* Flat Blank Gasketed With Caplve Screws

TP854* Flat Ring Double Gasketed

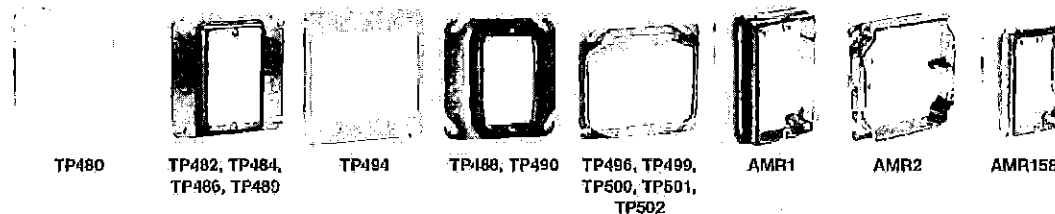
*For All Plenum 40 Mounting Holes - No UL Listed

JCSA Certified

**ETL Listed

MUD RINGS FOR 4" SQUARE STEEL OUTLET BOXES

UL LISTED



Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100	Capacity Cu. In.
ONE DEVICE				
TP480†	Flat	50	20	—
TP482†	1/4" Raised	50	21	1.8
TP484†	1/2" Raised	50	23	3.8
TP488†	1/2" Raised	50	20	4.3
TP488†	1/2" Raised	50	30	5.5
TP488†	1" Raised	50	34	6.8
TP490†	1 1/2" Raised	25	39	8.5
AMR1**	1/4" - 1 1/2" Raised Adjustable	25	47	—
TWO DEVICE				
TP494	Flat	50	12	—
TP496†	1/4" Raised	50	13	3.0
TP498†	1/2" Raised	50	18	6.0
TP498†	1/2" Raised	50	22	8.0
TP500†	1/2" Raised	50	24	9.0
TP501	1 1/2" Raised	25	31	14.0
TP502	1" Raised	25	30	11.7
AMR158**	1/4" - 1 1/2" Raised Adjustable	25	44	6.0
AMR2**	1/4" - 1 1/2" Raised Adjustable	25	50	11.3

† Stacked design for use with 4" square box partitions

JCSA Certified

**ETL Listed

COOPER Crouse-Hinds

www.crouse-hinds.com US 1-800-762-5451 CAN 1-800-259-3502 Copyright © 2012 Cooper Crouse-Hinds

*59

Steel Square Covers

4¹¹/₁₆" SQUARES COVERS - CUBIC INCH CAPACITY (SEE BELOW)



TP568



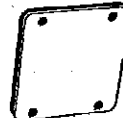
TP569, TP570, TP571,
TP573, TP575



TP574, - TP582,
TP529, TP531



TP584, TP586, TP589,
TP593, TP541, TP543



TP651*



TP652*

* For Air Plenum

Product Number	Description	Std. Unit Pkg.	Wt. Lbs. Per 100	Capacity Cu. In.
TP568†	Flat Blank	25	40	—
TP569	½" Raised, With Ears 2¾"	25	36	3.3
TP570	Raised ¾", With Ears 2¾"	25	39	3.8
TP571	¾" Raised, With Ears 2¾"	25	40	5.0
TP572†	Flat, With ½" KO	25	40	—
TP573	1" Raised, With Ears 2¾"	25	44	7.0
TP575	1½" Raised, With Ears 2¾"	25	48	9.0
Air Plenum				
TP651*	Flat Blank Gasketed Captive Screws	50	42	—
TP652	Flat Ring Double Gasketed	25	20	—
ONE DEVICE				
TP574	¼" Raised	25	32	1.8
TP576	½" Raised	25	36	3.3
TP578	¾" Raised	25	42	5.0
TP579	¾" Raised	25	39	4.3
TP580	1" Raised	25	46	6.8
TP582	1¼" Raised	25	52	8.8
TP529	1½" Raised	25	64	11.3
TP531	2" Raised	25	76	15.0
TWO DEVICE				
TP590	Flat	25	21	—
TP583	¼" Raised	25	28	3.0
TP584	½" Raised	25	30	6.0
TP587	¾" Raised	25	32	8.0
TP586	¾" Raised	25	34	6.6
TP588	1" Raised	25	38	11.7
TP593	1¼" Raised	25	42	14.0
TP541	1½" Raised	25	63	18.8
TP543	2" Raised	25	79	24.5

† CSA Certified

4¹¹/₁₆" SQUARE SURFACE COVERS - 9.0 CUBIC INCH CAPACITY

½" DEEP



TP720



TP722



TP724
TP730
TP736



TP726



TP728



TP732



TP734



TP736

Product Number	Description	Std. Unit Pkg.	Wt. Lbs. Per 100
TP720	For One Toggle Switch	10	52
TP722	For One Duplex Receptacle	10	49
TP724	For One Single Receptacle 1½" Dia.	10	53
TP730	For One 20 Amp Single Receptacle 1.620" Dia.	10	50
TP736	For One 1.730" Dia. Power Outlet	10	51
TP726	For Two Toggle Switches	10	52
TP728	For Two Duplex Receptacles	10	44
TP732	For One 2.125" Dia. Range/Dryer Receptacle	10	48
TP734	For One 2.480" Dia. Power Outlet	10	45
TP736	For One Ground Fault Interrupter	10	45
TP741	For Two GFI Receptacles	10	43

SINGLE-GANG LEVER SWITCH COVERS

C27



Application

- For use whenever weatherproof protection is required for an "on-off" type switch

Product Features

- Rugged metallic construction
- State-of-the-art powder coat finish provides maximum weatherability and scratch resistance
- Includes installation hardware and multi-lingual instructions.
- Single-gang covers are supplied with a switch — no need to purchase separate components
- Switch/cover units are supplied with the switch unassembled to the cover

Compliances

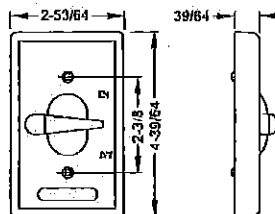
-  — Standard 514A
-  — Certified
- NEMA 3R Rated

SINGLE-GANG

5121 SERIES

5141 SERIES

CAT. NOS. 5120-0, 5137-0



5121-0 TO 5121-5
5141-0 TO 5141-5
5120-0, 5137-0

WEATHERPROOF BOXES,
COVERS AND LIGHTING

ORDERING INFORMATION - DIMENSIONS

SINGLE-GANG SWITCH COVERS - VERTICAL - DEVICE MOUNTED					
CATALOG NUMBER	COLOR	DESCRIPTION	PKG. TYPE	STD. PKG.	UPC BAR CODE
5121-0	Gray	SP 125V, 10A	Shrink	24	
5121-1	White	SP 125V, 10A	Shrink	24	
5121-2	Bronze	SP 125V, 10A	Shrink	24	
5121-5	Gray	SP 125V, 10A	Corded	8	
5141-0	Gray	3-Way 125V, 6A or 250V, 3A	Shrink	8	
5141-5	Gray	3-Way 125V, 6A or 250V, 3A	Corded	8	
5120-0	Gray	SP 120-277VAC, 20A	Shrink	20	
5137-0	Gray	DP 120-277VAC, 20A	Shrink	20	



BELL

Wedge Anchors Full Thread Zinc Plated PC 4540

- Wedge
- Full Thread
- Zinc Plated

- Available In Larger Diameters & Lengths

- Caution! Always Wear Eye Protection

Wedge anchors can be installed through the fixture. Assemble nut and washer until the nut is flush with the top of the anchor, insert into predrilled hole. Hammer anchor into hole until the washer is flush with surface of the fixture. Expand the anchor by tightening nut. Good shear values. ICC ESR-2502

CAT NO	UPC	ANCHOR HOLE DIA	OVERALL LENGTH	THREAD LENGTH	STD	MSTR	WT/STD	UNIT
W14134	59300	1/4-20	1-3/4"	3/4"	100	600	3.00#	C
W14214	59302	1/4-20	2-1/4"	1-1/4"	100	600	3.50#	C
W14314	59304	1/4-20	3-1/4"	2-1/4"	100	600	4.75#	C
W38214	59306	3/8-16	2-1/4"	1-1/4"	50	300	4.37#	C
W38234	59307	3/8-16	2-3/4"	1-5/8"	50	300	4.75#	C
W38300	59308	3/8-16	3"	1-7/8"	50	300	5.37#	C
W38334	59310	3/8-16	3-3/4"	2-5/8"	50	300	6.37#	C
W38500	59311	3/8-16	5"	3-7/8"	50	300	7.75#	C
W12234	59312	1/2-13	2-3/4"	1-3/8"	50	200	9.00#	C
W12334	59313	1/2-13	3-3/4"	2-3/8"	50	200	11.50#	C
W12400	59314	1/2-13	4-1/2"	3-1/8"	50	200	14.00#	C
W12512	59316	1/2-13	5-1/2"	4-1/8"	50	150	16.00#	C

The published length is the overall length of the anchor. Allow for fixture thickness plus one anchor diameter for the nut and washer thickness when selecting a length.

Wedge Anchors Full Thread Stainless Steel PC 4310

- Wedge
- Full Thread
- Stainless Steel

- Available In Larger Diameters & Lengths

Stainless Steel Wedge Anchors resist corrosion and are ideal for applications where chemical resistance is required. Stainless can be mildly magnetic. ICC Approval (Pending).

CAT NO	UPC	ANCHOR HOLE DIA	OVERALL LENGTH	THREAD LENGTH	STD	MSTR	WT/STD	UNIT
WS14134	70310	1/4-20	1-3/4"	3/4"	100	600	3.00#	C
WS14214	70312	1/4-20	2-1/4"	1-1/4"	100	600	3.50#	C
WS14314	70314	1/4-20	3-1/4"	2-1/4"	100	600	4.75#	C
WS38214	70320	3/8-16	2-1/4"	1-1/4"	50	300	4.37#	C
WS38234	70322	3/8-16	2-3/4"	1-5/8"	50	300	4.75#	C
WS38300	70324	3/8-16	3"	1-7/8"	50	300	5.37#	C
WS38334	70326	3/8-16	3-3/4"	2-5/8"	50	300	6.37#	C
WS38500	70328	3/8-16	5"	3-7/8"	50	300	7.75#	C
WS12234	70340	1/2-13	2-3/4"	1-3/8"	50	200	9.00#	C
WS12334	70342	1/2-13	3-3/4"	2-3/8"	50	200	11.50#	C
WS12400	70344	1/2-13	4-1/2"	3-1/8"	50	200	14.00#	C
WS12512	70346	1/2-13	5-1/2"	4-1/8"	50	150	16.00#	C

The published length is the overall length of the anchor. Allow for fixture thickness plus one anchor diameter for the nut and washer thickness when selecting a length.

TECH TALK

Selection



- A 3 turns of nut (approx. 1/2 bolt dia.)
 - B Nut & washer thickness (approx. 1 bolt dia.)
 - C Fixture thickness
 - D Minimum embedment (min. 4112 bolt dia.)
- Minimum Anchor Length
If minimum anchor length falls between 2 sizes, use longer size. The maximum recommended anchor embedment should be 80% of the base material thickness. If a concrete slab is 10" thick, an 8" depth would be the maximum recommended anchor embedment.

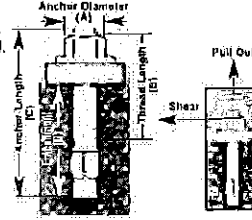
Installation



1. Use a carbide bit (ANSI B94 12) the same size as the bolt dia. Drill hole deeper than bolt embed. (min. 4.5 dia.) Do not use carbide bits. Maintain accurate hole size.
2. Clean hole debris
3. Add washer + thread nut flush with top of bolt. Drive bolt into hole through item to be fastened.
4. To set, tighten nut 3-4 full turns or consult chart for guide installation torque

NOTE: Using in concrete cured less than 28 days will greatly reduce anchor strength
WARNING: WEAR SAFETY GOGGLES

Terminology



See new products at lhdottie.com

Dottie

B7

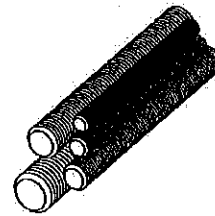
CHANNEL NUTS & HARDWARE

B-Line

ATR

ALL THREADED ROD

- Available in 36" (91.4 cm), 72" (182.9 cm), 120" (304.8 cm), 144" (365.7 cm) lengths
- Safety Factor of 5 on recommended load
- Standard finish: Zinc-Plated, Stainless Steel Type 304

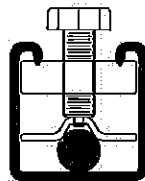


Part No. & Size	Threads Per Inch	Recommended Load		Wt./C Ft. (3048.0 cm)	
		Lbs.	kN	Lbs.	kg
ATR 1/4"	20	240	(1.07)	12	(5.44)
ATR 5/16"	18	380	(1.69)	19	(8.62)
ATR 3/8"	16	610	(2.71)	29	(13.15)
ATR 1/2"	13	1130	(5.02)	53	(24.04)
ATR 5/8"	11	1810	(8.05)	89	(40.37)
ATR 3/4"	10	2710	(12.05)	123	(55.79)
ATR 7/8"	9	3770	(16.77)	170	(77.11)
ATR 1"	8	4960	(22.06)	225	(102.06)

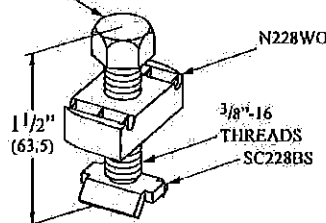
SC228

HANGER ROD STIFFENER

- For 3/8" thru 5/8" ATR
- Strut ordered separately
- Standard finish: ZN



SC228B



B655

ROD COUPLING

- Load rating for each coupler meets All Threaded Rod value
- Standard finish: Zinc-Plated, Stainless Steel Type 304

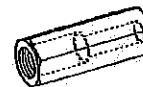


Part No.	Size	Recommended Load		Length	Wt./C	
		Lbs.	kN		Lbs.	kg
B655-1/4	1/4"-20	240	(1.07)	7/8" (22.2)	1.9	(.86)
B655-5/16	5/16"-18	380	(1.69)	7/8" (22.2)	1.8	(.81)
B655-3/8	3/8"-16	610	(2.71)	1 1/8" (28.6)	3.6	(1.63)
B655-1/2	1/2"-13	1130	(5.02)	1 3/4" (44.4)	11.3	(5.12)
B655-5/8	5/8"-11	1810	(8.05)	2 1/8" (54.0)	17.6	(7.98)
B655-3/4	3/4"-10	2710	(12.05)	2 1/4" (57.1)	28.1	(12.74)
B655-7/8	7/8"-9	3770	(16.77)	2 1/2" (63.5)	57.2	(25.94)
B655-1	1"-8	4960	(22.06)	2 3/4" (69.8)	73.7	(33.43)

B656

REDUCER ROD COUPLING

- Load rating for each coupler meets smaller All Threaded Rod value.
- Standard finish: Zinc-Plated, Stainless Steel Type 304



Part No.	Size	Recommended Load		Length	Wt./C	
		Lbs.	kN		Lbs.	kg
B656-3/8 x 1/4	3/8"-16 & 1/4"-20	240	(1.07)	1" (25.4)	3.7	(1.68)
B656-1/2 x 3/8	1/2"-13 & 3/8"-16	610	(2.71)	1 1/4" (31.7)	6.6	(2.99)
B656-5/8 x 1/2	5/8"-11 & 1/2"-13	1130	(5.02)	1 1/4" (31.7)	11.6	(5.26)
B656-3/4 x 5/8	3/4"-10 & 5/8"-11	1810	(8.05)	1 1/2" (38.1)	20.6	(9.34)
B656-7/8 x 3/4	7/8"-9 & 3/4"-10	2710	(12.05)	1 3/4" (44.4)	39.4	(17.87)

TECHNICAL DATA

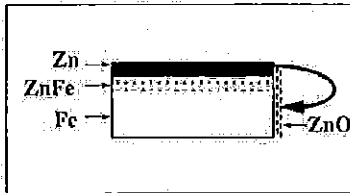
B-Line ®

FINISHES

Zinc Coatings

Zinc protects steel in two ways. First it protects the steel as a coating and second as a sacrificial anode to repair bare areas such as cut edges, scratches, and gouges. The corrosion protection of zinc is directly related to its thickness and the environment. This means a .2 mil coating will last twice as long as a .1 mil coating in the same environment.

Galvanizing also protects cut and drilled edges.



Electrogalvanized Zinc

Electrogalvanized Zinc (also known as zinc plated or electroplated) is the process by which a coating of zinc is deposited on the steel by electrolysis from a bath of zinc salts.

A rating of SC3, B-Line's standard, provides a minimum zinc coating thickness of .5 mils (excluding hardware, which is SC1 = .2 mils).

When exposed to air and moisture, zinc forms a tough, adherent, protective film consisting of a mixture of zinc oxides, hydroxides, and carbonates. This film is in itself a barrier-coating which slows subsequent corrosive attack on the zinc. This coating is usually recommended for indoor use in relatively dry areas, as it provides ninety-six hours protection in salt spray testing per ASTM B117.

Chromium/ Zinc

Chromium/ Zinc is a corrosion resistant composition, which was developed to protect fasteners and small bulk items for automotive use. The coating applications have since been extended to larger parts and other markets.

Chromium/Zinc composition is an aqueous coating dispersion containing chromium, proprietary organics, and zinc flake.

This finish provides 1000 hours protection in salt spray testing per ASTM B117.

Pre-Galvanized Zinc

(Mill galvanized, hot dip mill galvanized or continuous hot dip galvanized) Pre-galvanized steel is produced by coating coils of sheet steel with zinc by continuously rolling the material through molten zinc at the mills. This is also known as mill galvanized or hot dip mill galvanized. These coils are then slit to size and fabricated by roll forming, shearing, punching, or forming to produce B-Line pre-galvanized strut products.

The G90 specification calls for a coating of .90 ounces of zinc per square foot of steel. This results in a coating of .45 ounces per square foot on each side of the sheet. This is important when comparing this finish to hot dip galvanized after fabrication.

During fabrication, cut edges and welded areas are not normally zinc coated; however, the zinc near the uncoated metal becomes a sacrificial anode to protect the bare areas after a short period of time.

Hot Dip Galvanized After Fabrication (Hot dip galvanized or batch hot dip galvanized)

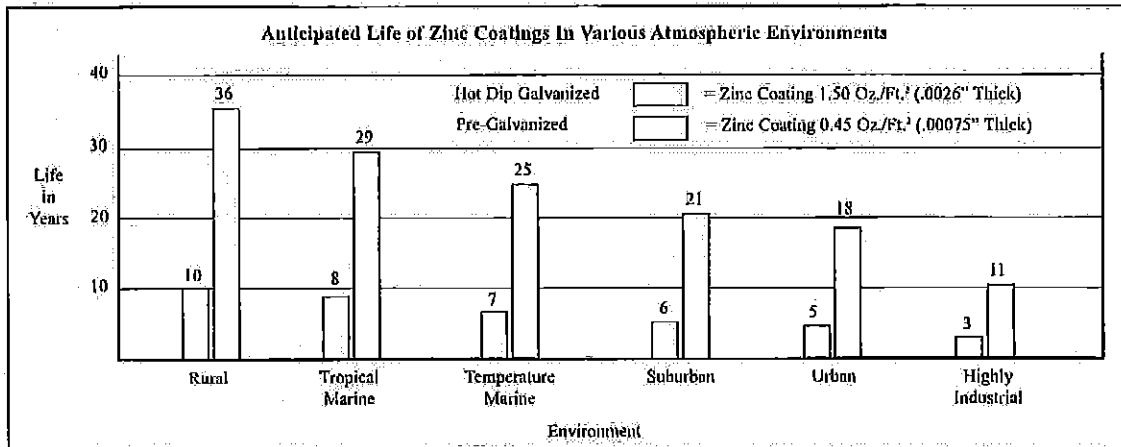
Hot dip galvanized strut products are fabricated from steel and then completely immersed in a bath of molten zinc. A metallic bond occurs resulting in a zinc coating that completely coats all surfaces, including edges and welds.

Another advantage of this method is coating thickness. Strut products that are hot dip galvanized after fabrication have a minimum thickness of 1.50 ounces per square foot on each side, or a total 3.0 ounces per square foot of steel, according to ASTM A123.

The zinc thickness is controlled by the amount of time each part is immersed in the molten zinc bath as well as the speed at which it is removed. The term "double dipping" refers to parts too large to fit into the galvanizing kettle and, therefore, must be dipped one end at a time. It does not refer to extra coating thickness.

The layer of zinc which bonds to steel provides a dual protection against corrosion. It protects first as an overall barrier coating. If this coating happens to be scratched or gouged, zinc's secondary defense is called upon to protect the steel by galvanic action.

Hot-Dip Galvanized After Fabrication is recommended for prolonged outdoor exposure and will usually protect steel for 20 years or more in most atmospheric environments and in many industrial environments. For best results, a zinc rich paint (available from B-Line) should be applied to field cuts. The zinc rich paint will provide immediate protection for these areas and eliminate the short time period for galvanic action to "heal" the damaged coating.



CHANNEL NUTS & HARDWARE

Channel Nuts

B-Line's channel nut is one of the main components of our metal framing system. It is designed to provide essential gripping power and ease during installation. Channel nuts are press formed, machined and hardened from steel which meets the requirements of ASTM A108 or ASTM A36 for our larger sizes.

Bolts, Screws, and Nuts

All bolts, screws and nuts meet the physical and chemical requirements of ASTM A307, SAE J429 or ASTM A563, and have unified inch screw threads (coarse, UNC). ISO metric threads are also available on special request.

Recommended Torque

Bolt Size	1/4-20	5/16-18	3/8-16	1/2-13
Foot/Lbs.	6	11	19	50
Nm	8	15	26	68

Bolt Size	M6x1	M8 x 1.5	M10 x 1.5	M12x1.75
NM	12	17	36	62
Foot/Lbs.	9	13	27	46

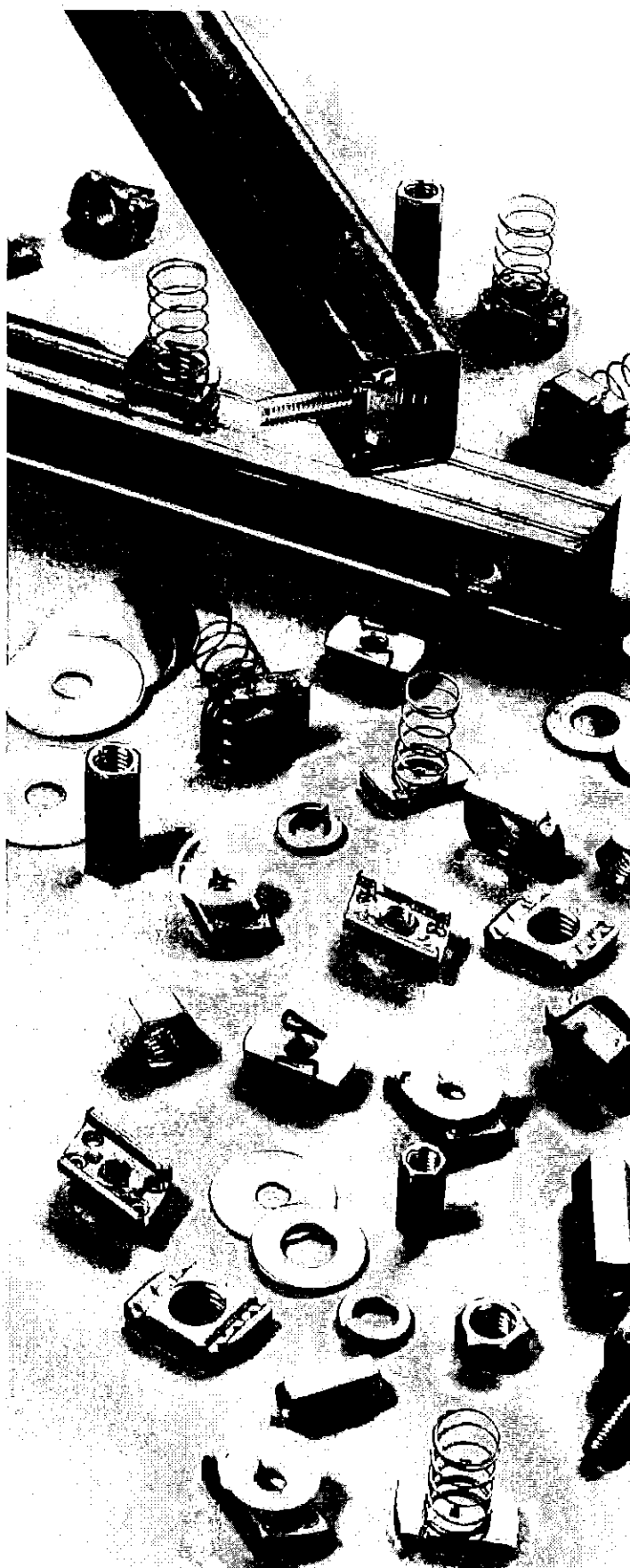
Materials & Finishes*

Finish Code	Finish	Specification
PLN	Plain	ASTM A108/A307 Gr. A
ZN	Electro-Plated Zinc	ASTM B633 SC1 Type III
CZ	Chromium Zinc	ASTM F1136 Gr. 3
HDG	Hot-Dipped Galvanized	ASTM A153
SS4	Stainless Steel Type 304	ASTM A593
SS6	Stainless Steel Type 316	MP1F 35/ASTM A593
AL	Aluminum	ASTM F468 S4

*Unless otherwise noted.

Metric

Metric dimensions are shown in parentheses. Unless noted, all metric dimensions are in millimeters.



B-Line

REFERENCE DATA

B-Line

METRIC CONVERSION CHART

To Convert From	To	Multiply By	To Convert From	To	Multiply By			
Angle			Length					
degree	radian (rad)	1.745329 x 10 ⁻¹	foot (ft)	meter (m)	3.048000 x 10 ⁻¹			
radian (rad)	degree	5.729578 x 10 ⁻¹	inch (in)	meter (m)	2.540000 x 10 ⁻²			
Area			mil	meter (m)	2.540000 x 10 ⁻⁴			
			inch (in)	micrometer (mm)	2.540000 x 10 ⁻¹			
			foot ²	square meter (m ²)	9.290304 x 10 ⁻¹	meter (m)	foot (ft)	3.280840
			inch ²	square meter (m ²)	6.451600 x 10 ⁻⁴	meter (m)	inch (in)	3.937008 x 10 ⁻¹
			circular mil	square meter (m ²)	5.067075 x 10 ⁻¹⁰	meter (m)	mil	3.937008 x 10 ⁻⁴
			sq. centimeter (cm ²)	square inch (in ²)	1.550003 x 10 ⁻¹	micrometer (mm)	inch (in)	3.937008 x 10 ⁻⁴
			square meter (m ²)	foot ²	1.076391 x 10 ⁻¹	Volume		
			square meter (m ²)	inch ²	1.550003 x 10 ⁻³			
square meter (m ²)	circular mil	1.973523 x 10 ⁻⁹	foot ³	cubic meter (m ³)	2.831685 x 10 ⁻²			
Temperature			inch ³	cubic meter (m ³)	1.638706 x 10 ⁻⁴			
degree Fahrenheit	degree Celsius	t ^{°C} =(t ^{°F} -32)/1.8	cubic centimeter (cm ³)	cubic inch (in ³)	6.102374 x 10 ⁻²			
degree Celsius	degree Fahrenheit	t ^{°F} =1.8t ^{°C} +32	cubic meter (m ³)	foot ³	3.531466 x 10 ⁻¹			
Force			cubic meter (m ³)	inch ³	6.102376 x 10 ⁻⁴			
			pounds-force (lbf)	newtons (N)	4.448222 x 10 ⁻¹	gallon (U.S. liquid)	cubic meter (m ³)	3.785412 x 10 ⁻³
			Section Properties					
			section modulus S (in ³)	S (m ³)	1.638706 x 10 ⁻³			
			moment of inertia I (in ⁴)	I (m ⁴)	4.162314 x 10 ⁻⁴			
			modulus of elasticity E (psi)	E (Pa)	6.894757 x 10 ⁻²			
			section modulus S (m ³)	S (in ³)	6.102374 x 10 ⁻⁴			
			moment of inertia I (m ⁴)	I (in ⁴)	2.402510 x 10 ⁻⁴			
			modulus of elasticity E (Pa)	E (psi)	1.450377 x 10 ⁻⁴			
To Convert From	To	Multiply By	Abbreviations					
Bending Moment or Torque			Defl.	= Deflection				
lbf • ft	newton meter (N•m)	1.355818	S.F.	= Safety Factor				
lbf • in	newton meter (N•m)	1.329848 x 10 ⁻¹	ft	= Feet				
N•m	lbf • ft	7.375621 x 10 ⁻¹	Pre-galv.	= Pre-galvanized Steel				
N•m	lbf • in	8.850748	K Factor	= Deflection Divided by load in Lbs./Ft.				
Mass			o.c.	= On Center				
ounce (avoirdupois)	kilogram (kg)	2.834952 x 10 ⁻²	PVC	= Poly Vinyl Chloride				
pound (avoirdupois)	kilogram (kg)	4.535924 x 10 ⁻¹	In.	= Inch				
ton (short, 2000 lb)	kilogram (kg)	9.071847 x 10 ⁻¹	psi	= Pounds per Square Inch				
ton (long, 2240 lb)	kilogram (kg)	1.016047 x 10 ⁻¹	wt./c	= Weight per 100 pieces				
kilogram (kg)	ounce (avoirdupois)	3.527396 x 10 ⁻¹	Metric Symbols					
kilogram (kg)	pound (avoirdupois)	2.204622						
kilogram (kg)	ton (short, 2000 lb)	1.102311 x 10 ⁻³						
kilogram (kg)	ton (long, 2240 lb)	9.842064 x 10 ⁻⁴						
Mass Per Unit Length								
lb/ft	kilogram per meter (kg/m)	1.488164	m	= meter				
lb/in	kilogram per meter (kg/m)	1.785797 x 10 ⁻¹	cm	= centimeter				
kg/m	lb/ft	6.719689 x 10 ⁻¹	mm	= millimeter				
kg/m	lb/in	5.599741 x 10 ⁻¹	µm	= micrometer				
Mass Per Unit Volume			kg	= kilogram				
lb/ft ³	kilogram per cubic meter (kg/m ³)	1.601846 x 10 ⁻¹	N	= newton				
lb/in ³	kilogram per cubic meter (kg/m ³)	2.767990 x 10 ⁻⁴	kN	= kilonewton				
kg/m ³	lb/ft ³	6.242797 x 10 ⁻¹	Pa	= pascal				
kg/in ³	lb/in ³	3.612730 x 10 ⁻³	MPa	= megapascal				
lbs/ft ³	lbs/in ³	5.787037 x 10 ⁻³						
Mass Per Unit Area								
lb/ft ²	kilogram per square meter (kg/m ²)	4.882428						
kg/m ²	pound per square foot (lb/ft ²)	2.048161 x 10 ⁻¹						
Pressure or Stress								
lbf/in ² (psi)	pascal (Pa)	6.894757 x 10 ⁻²						
kip/in ² (ksi)	pascal (Pa)	6.894757 x 10 ⁻³						
lbf/in ² (psi)	megapascals (MPa)	6.894757 x 10 ⁻⁴						
pascal (Pa)	pound-force per square inch (psi)	1.450377 x 10 ⁻⁴						
pascal (Pa)	kip per square inch (ksi)	1.450377 x 10 ⁻⁷						
megapascals (MPa)	lbf/in ² (psi)	1.450377 x 10 ⁻²						


Hex Nuts / Machine Screw & Finished PC 4100, 4010, 4300, 4015, 4018

Hex machine screw nuts are for screws smaller than 1/4" diameter. Finished hex nuts are heavier (thicker) and are furnished in sizes 1/4" and up.

- Zinc Plated - General Use
- Grade 5 - Medium Strength

- Stainless - Corrosion & Chemical Resistant
- Solid Brass Good Near Water & Salt Air

- Silicon Bronze: Harder Than Brass - Used in Direct Burial
- Invinibox™ Up To 1/2"

CAT NO	UPC		SIZE	STD	SLEEVE	MSTR	WT/STD	UNIT
Zinc Plated Steel - PC 4100								
HN632	17010	Machine Screw Nuts	6-32	100	500	4000	0.21#	C
HN832	17015		8-32	100	500	4000	0.28#	C
HN1024	17020		10-24	100	500	4000	0.33#	C
HN1032	17025		10-32	100	500	4000	0.33#	C
HN1224	17030		12-24	100	500	2000	0.56#	C
HN14	17035	Finished Hex Nuts	1/4-20	100	500	2000	0.68#	C
HN516	17040		5/16-18	50	250	2000	0.51#	C
HN38	17045		3/8-16	50	250	2000	0.74#	C
HN12	17050		1/2-13	25	125	1000	0.90#	C
HN58	17055		5/8-11	25	125	750	1.77#	C
HN34	17060	3/4-10	25	125	250	2.95#	C	
HNT14	17051	Tuff Pack 	1/4-20	500		3000	3.70#	C
HNT38	17052		3/8-16	250		1500	3.86#	C
HNT12	17053		1/2-13	150		900	4.62#	C
Stainless Steel - PC 4010								
HNS632	69776	Machine Screw Nuts	6-32	100	500	4000	0.22#	C
HNS832	69878		8-32	100	500	4000	0.30#	C
HNS1024	69780		10-24	100	500	4000	0.33#	C
HNS1032	69872		10-32	100	500	4000	0.32#	C
HNS1224	69784		12-24	100	500	2000	0.58#	C
HNS14	69786	Finished Hex Nuts	1/4-20	100	500	2000	0.72#	C
HNS516	69788		5/16-18	50	250	2000	0.55#	C
HNS38	69790		3/8-16	50	250	2000	0.79#	C
HNS12	69792		1/2-13	25	125	1000	1.22#	C
HNS58	69794		5/8-11	25	125	750	1.84#	C
HNS34	69796		3/4-10	25	125	250	2.95#	C
Solid Brass - PC 4300								
HNBR632	17110	Machine Screw Nuts	6-32	100	500	4000	0.21#	C
HNBR832	17115		8-32	100	500	4000	0.28#	C
HNBR1024	17120		10-24	100	500	4000	0.33#	C
HNBR1032	17125		10-32	100	500	4000	0.33#	C
HNBR1224	17150		12-24	100	500	4000	0.56#	C
HNBR14	17135	Finished Hex Nuts	1/4-20	100	500	4000	0.68#	C
HNBR516	17105		5/16-18	50	250	2000	0.51#	C
HNBR38	17140		3/8-16	50	250	2000	0.74#	C
HNBR12	17145		1/2-13	25	125	1000	0.90#	C
Silicon Bronze - PC 4015								
HNBZ632	17160	Machine Screw Nuts	6-32	100	500	4000	0.21#	C
HNBZ832	17161		8-32	100	500	4000	0.28#	C
HNBZ1024	17162		10-24	100	500	4000	0.33#	C
HNBZ1032	17163		10-32	100	500	4000	0.33#	C
HNBZ14	17164	Finished Hex Nuts	1/4-20	100	500	4000	0.68#	C
HNBZ516	17165		5/16-18	50	250	2000	1.02#	C
HNBZ38	17166		3/8-16	50	250	2000	0.75#	C
HNBZ12	17167		1/2-13	25	125	1000	1.02#	C
Grade 5 - Zinc Plated - PC 4018								
5HN14	13000	Finished Hex Nuts	1/4-20	100	500	4000	0.68#	C
5HN38	13001		3/8-16	50	250	2000	0.75#	C
5HN12	13002		1/2-13	25	125	1000	0.90#	C
5HN58	13003		5/8-11	25	125	750	1.85#	C
5HN34	13004		3/4-10	25	125	500	2.97#	C

Washer Head Self Drilling Screws Zinc Plated - PG 4220

- Self Drilling
- Hex Washer Head

- Zinc Plated Steel
- Invinclbox™ Up To 2"

Hex washer head self drilling screws drill a hole and tap threads in one operation. The drilling operation removes metal and can be used in heavier gauge metals. Length is determined from the base of the fastener head.

CAT NO	UPC		SIZE	HEX SIZE	STD SLEEVE	MSTR	WT/STD	UNIT
TEKHW612	17455	#6	6 x 1/2	1/4"	100	500	4000	0.26# C
TEKHW634	17460		6 x 3/4	1/4"	100	500	4000	0.31# C
TEKHW61	17465		6 x 1	1/4"	100	500	4000	0.37# C
TEKHW812	17500	#8	8 x 1/2	1/4"	100	500	4000	0.36# C
TEKHW834	17505		8 x 3/4	1/4"	100	500	4000	0.46# C
TEKHW81	17510		8 x 1	1/4"	100	500	4000	0.56# C
TEKHW8114	17515		8 x 1-1/4	1/4"	100	500	4000	0.68# C
TEKHW8112	17520		8 x 1-1/2	1/4"	100	500	3000	0.74# C
TEKHW82	17523		8 x 2	1/4"	100	500	3000	0.91# C
TEKHW1012	17525	#10	10 x 1/2	5/16"	100	500	4000	0.51# C
TEKHW1034	17530		10 x 3/4	5/16"	100	500	4000	0.62# C
TEKHW101	17535		10 x 1	5/16"	100	500	4000	0.79# C
TEKHW10114	17540		10 x 1-1/4	5/16"	100	500	3000	0.92# C
TEKHW10112	17545		10 x 1-1/2	5/16"	100	500	3000	1.06# C
TEKHW102	17547		10 x 2	5/16"	50	250	1500	0.66# C
TEKHW1234	17550	#12	12 x 3/4	5/16"	100	500	4000	0.89# C
TEKHW121	17555		12 x 1	5/16"	100	500	3000	1.08# C
TEKHW12112	17560		12 x 1-1/2	5/16"	100	500	3000	1.44# C
TEKHW122	17562		12 x 2	5/16"	50	250	1500	0.89# C
TEKHW1434	17565	#14	14 x 3/4	3/8"	100	500	3000	1.35# C
TEKHW141	17570		14 x 1	3/8"	100	500	3000	1.39# C
TEKHW14114	17575		14 x 1-1/4	3/8"	100	500	3000	1.86# C
TEKHW14112	17580		14 x 1-1/2	3/8"	50	250	1500	1.04# C
TEKHW142	17585		14 x 2	3/8"	50	250	1500	1.16# C
TEKHT812	17800	#8 Tuff Pack	8 x 1/2	1/4"	500		3000	2.04# C
TEKHT834	17802		8 x 3/4	1/4"	500		3000	2.22# C
TEKHT81	17804		8 x 1	1/4"	500		3000	2.76# C
TEKHT1012	17806	#10 Tuff Pack	10 x 1/2	5/16"	500		3000	2.48# C
TEKHT1034	17808		10 x 3/4	5/16"	500		3000	3.10# C
TEKHT101	17810		10 x 1	5/16"	500		3000	3.74# C

Zinc Plated - PG 4220

- Self Drilling
- Wafer Head
- Phillips

- Zinc Plated Steel
- Invinclbox™ Up To 1-1/4"

Self drilling phillips wafer head screws drill a hole and tap threads in one operation. The drilling operation removes metal and can be used with heavier gauge metals. Length is determined from the base of the fastener head.

CAT NO	UPC		SIZE	BIT SIZE	STD SLEEVE	MSTR	WT/STD	UNIT
TEKW812	17775	#8	8 x 1/2	#2	100	500	4000	0.34# C
TEKW834	17780		8 x 3/4	#2	100	500	4000	0.45# C
TEKW81	81481		8 x 1	#2	100	500	4000	0.56# C
TEKW8114	17785		8 x 1-1/4	#2	100	500	4000	0.67# C
TEKWT812	17790	#8 Tuff Pack	8 x 1/2	#2	500		3000	2.04# C
TEKWT834	17795		8 x 3/4	#2	500		3000	2.68# C
TEKWT81	81482		8 x 1	#2	500		3000	2.80# C
TEKW812BK	81483	#8 Bulk Pack	8 X 1/2	#2	10000		10000	34.00# C
TEKW834BK	81484		8 X 3/4	#2	10000		10000	45.00# C
TEKW81BK	81485		8 X 1	#2	6500		6500	29.25# C
TEKW8114BK	81486		8 X 1-1/4	#2	6500		6500	30.55# C

See new products at lhdottie.com

Dottie

A19



Pan Head Phillips Self Drilling Screws Zinc Plated - PC 4220

Self drilling phillips pan head screws drill a hole and tap threads in one operation. The drilling operation removes metal and can be used with heavier gauge metals. Length is determined from the base of the fastener head.

- Self Drilling
- Pan Head
- Phillips
- Zinc Plated Steel
- Invincibox™ Up To 2"

CAT NO	UPC		SIZE	BIT SIZE	STD	SLEEVE	MSTR	WT/STD	UNIT
TEKPH612	17370	#6	6 x 1/2	#1	100	500	4000	0.26#	C
TEKPH634	17375		6 x 3/4	#1	100	500	4000	0.30#	C
TEKPH61	17380		6 x 1	#1	100	500	4000	0.34#	C
TEKPH812	17410	#8	8 x 1/2	#2	100	500	4000	0.36#	C
TEKPH834	17415		8 x 3/4	#2	100	500	4000	0.43#	C
TEKPH81	17420		8 x 1	#2	100	500	4000	0.58#	C
TEKPH8114	17385		8 x 1-1/4	#2	100	500	4000	0.61#	C
TEKPH8112	17390		8 x 1-1/2	#2	100	500	3000	0.72#	C
TEKPH82	17395		8 x 2	#2	100	500	4000	0.92#	C
TEKPH1012	17425	#10	10 x 1/2	#2	100	500	4000	0.47#	C
TEKPH1034	17430		10 x 3/4	#2	100	500	4000	0.59#	C
TEKPH101	17435		10 x 1	#2	100	500	4000	0.76#	C
TEKPH10114	17440		10 x 1-1/4	#2	100	600	3000	0.82#	C
TEKPH10112	17445		10 x 1-1/2	#2	100	500	3000	0.93#	C
TEKPH102	17450		10 x 2	#2	50	250	1500	0.61#	C



Pan Head Square Drive Self Drilling Screws Zinc Plated - PC 4220

Self drilling square drive pan head screws drill a hole and tap threads in one operation. The drilling operation removes metal and can be used with heavier gauge metals. Length is determined from the base of the fastener head.

- Self Drilling
- Pan Head
- Square Drive
- Zinc Plated Steel
- Invincibox™ Up To 2"

CAT NO	UPC		SIZE	BIT SIZE	STD	SLEEVE	MSTR	WT/STD	UNIT
TEKDD812	59500	#8	8 x 1/2	#2	100	500	4000	0.36#	C
TEKDD834	59502		8 x 3/4	#2	100	500	4000	0.43#	C
TEKDD81	59504		8 x 1	#2	100	500	4000	0.58#	C
TEKDD8114	59517		8 x 1-1/4	#2	100	500	4000	0.82#	C
TEKDD8112	59518		8 x 1-1/2	#2	100	500	3000	0.93#	C
TEKDD82	59519		8 x 2	#2	100	500	3000	1.22#	C
TEKDD1012	59506	#10	10 x 1/2	#2	100	500	4000	0.47#	C
TEKDD1034	59508		10 x 3/4	#2	100	500	4000	0.59#	C
TEKDD101	59510		10 x 1	#2	100	500	4000	0.76#	C
TEKDD10114	59520		10 x 1-1/4	#2	100	500	3000	0.82#	C
TEKDD10112	59521		10 x 1-1/2	#2	100	500	3000	0.93#	C
TEKDD102	59522		10 x 2	#2	50	250	1500	0.61#	C
TEKDDT812	59511	#8 Tuff Pack	8 x 1/2	#2	500		3000	1.76#	C
TEKDDT834	59512		8 x 3/4	#2	500		3000	2.28#	C
TEKDDT81	59513		8 x 1	#2	500		3000	2.76#	C
TEKDDT1012	59514	#10 Tuff Pack	10 x 1/2	#2	500		3000	2.48#	C
TEKDDT1034	59515		10 x 3/4	#2	500		3000	3.10#	C
TEKDDT101	59516		10 x 1	#2	500		3000	3.60#	C

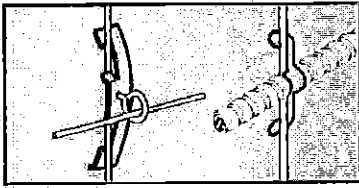
TECH TALK



Self Drilling Screws

- Manufactured from high quality cold headed material and heat treated under controlled conditions yielding optimum drill performance.
- Better thread engagement and optimum holding powers are achieved by using a product which self-drills its own hole size.
- Available in a variety of head styles and drive systems to meet special application and installation demands.

Conduit & Cable

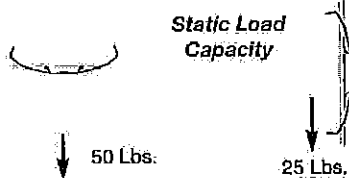
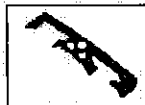


Rod & Wire Fasteners

- BW2 and BW6 support #10-24 or 1/4"-20 threaded bridle rings and provide attachment for electrical boxes.
- BW2S & BW6S are provided with one each 1/4"-20 x 3/8" screw and hex nut.
- BW4 supports cables from #12 thru #8 wire.



Conduit & Cable	UPC/Part Number	Catalog Number	Drop Rod/Wire Size	Flange Thickness	Box Qty.
	781011 19700	BW2	#12 wire thru 1/4" plain or threaded rod	1/8" - 3/8"	100
	782051 40156	BW2S	#12 wire thru 1/4" plain or threaded rod	1/8" - 3/8"	100
	781011 95516	BW6	3/8" plain or threaded rod	3/8" - 7/16"	100
	782051 40157	BW6S	3/8" plain or threaded rod	3/8" - 7/16"	100



UPC/Part Number	Catalog Number	Description	Box Qty.
781011 19705	BW4	Multi-size Wire Fastener	100



MC/AC Cable Size	#12 Wire	#10 Wire	#8 & #9 Wire
14/2 Cable	BW4	BW4	BW4
14/3 Cable	BW4	BW4	BW4
12/2 Cable	BW4	BW4	BW4
12/3 Cable	BW4	BW-8	BW-8

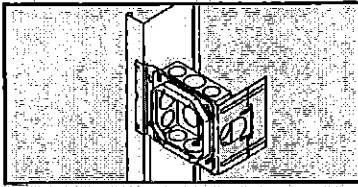
BW4 is designed for positioning only. No load rating.

Note: An independent means of support is required by NEC Article 300.11. Refer to pages 246-247 for additional support methods.

Read safety/installation (instruction) sheets in packages before use.

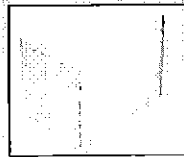


Wall Studs

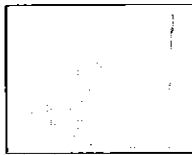


Wall Studs

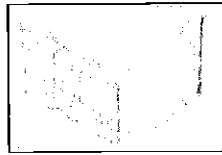
Box Support Brackets



BB4-23



BB4-4



BB4-6

- Improved far-side support stands up during drywall installation and outperforms competitor brackets.
- Supports 4" or 4 1/16", square boxes.
- Brackets may be piggy-backed in series.
- Finish: Pre-Galvanized.
- See page 176 for Ruff-IN pre-fab box assemblies.



UPC/Part Number	Catalog Number	Metal Stud Size	Box Qty.
781011 18190	BB4-23	3 1/2", 2 1/2"	100
781011 18200	BB4-4	4", 3 1/2", 2 1/2"	100
781011 18202	BB4-6	6", 5 1/2", 3 1/2", 2 1/2"	100

Read safety/installation instruction sheets in packages before use. These products are designed for posttensioning only. No load rating.



CHEMICALS & SUPPLIES - HAZARDOUS WASTE

Polypropylene Pull Rope is a lightweight, strong rope that is rot proof and unaffected by water, oil, gasoline and most chemicals.

- Polypropylene
- Safety Yellow

CAT NO	UPC	SIZE	WORK LOAD TENSILE		STD	MSTR	WT/STD	UNIT
18100	61300	1/8" x 1000'	48#	480#	1	1	4.05#	Ea
18250	61305	1/8" x 2500'	48#	480#	1	1	10.58#	Ea
3625	61302	3/16" x 250'	72#	720#	1	1	2.69#	Ea
3660	61304	3/16" x 600'	72#	720#	1	1	6.52#	Ea
36100	61306	3/16" x 1000'	72#	720#	1	1	9.39#	Ea
36120	61308	3/16" x 1200'	72#	720#	1	1	10.62#	Ea
36300	60314	3/16" x 3000'	72#	720#	1	1	23.47#	Ea
36360	60316	3/16" x 3600'	72#	720#	1	1	30.78#	Ea
1425	61310	1/4" x 250'	113#	1130#	1	1	4.99#	Ea
1460	61312	1/4" x 600'	113#	1130#	1	1	8.96#	Ea
14100	61314	1/4" x 1000'	113#	1130#	1	1	15.72#	Ea
14120	61316	1/4" x 1200'	113#	1130#	1	1	17.84#	Ea
14240	61318	1/4" x 2400'	113#	1130#	1	1	34.02#	Ea
14400	61315	1/4" x 4000'	113#	1130#	1	1	51.54#	Ea
3830	61318	3/8" x 300'	243#	2430#	1	1	8.93#	Ea
3860	61320	3/8" x 600'	243#	2430#	1	1	18.55#	Ea
38120	61322	3/8" x 1200'	243#	2430#	1	1	36.92#	Ea
38250	60312	3/8" x 2500'	243#	2430#	1	1	70.00#	Ea
38360	60318	3/8" x 3600'	243#	2430#	1	1	111.00#	Ea
1230	61324	1/2" x 300'	378#	3780#	1	1	16.98#	Ea
1260	61326	1/2" x 600'	378#	3780#	1	1	33.10#	Ea
12120	61328	1/2" x 1200'	378#	3780#	1	1	62.22#	Ea

Pull Line is used to pull rope through conduit and can be used with power fishing systems.

- Two Ply Pull Line
- Dispensing Box

- Dispensing Pail
- Rot & Mildew Resistant

CAT NO	UPC	COLOR	LENGTH	WORK LOAD	TENSILE	STD	MSTR	WT/STD	UNIT
6502	15745	Blue / White	6500'	20#	200#	1	1	10.00#	Ea
6502P	15747	Blue / White	6500' Pail	20#	200#	1	1	11.65#	Ea
Heavy Duty									
2203P	27506	Red / White	2200' Pail	50#	500#	1	1	12.66#	Ea

Polypropylene Pull Rope is a lightweight, strong rope that is rot proof and unaffected by water, oil, gasoline and most chemicals.

Polyester Pull Line (Dispensing Box) provides a strong, reliable method of fishing from one's boat. The rope is made of high strength polyester fibers and is resistant to abrasion, rot, and mildew.

For more information, call 1-800-325-1000.



Dottie

To Order: Phone (323)725-1000 / Fax (323)721-0000